FOR OFFICIAL USE ONLY

ACCESS DB # 150494
PLEASE PRINT CLEARLY

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Jeff Fredman Examiner # : 72610 Date: 4/12/05
Art Unit: 1637 Phone Number: 2-0742 Serial Number: 10/122,997/700,072
Location (Bldg/Room#): Remsen (Mailbox #): _____ Results Format Preferred (circle): PAPER DISK
****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following: MEJ

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Date: _____

Search Topic:
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please Search Ib w/ each of the 2 groups.

Thanks,
Jeff

****

STAFF USE ONLY

Searcher: _____
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: _____
Date Completed: 4/20
Searcher Prep & Review Time: 30
Online Time: 60

Type of Search

_____ NA Sequence (#)
_____ AA Sequence (#)
_____ Structure (#)
_____ Bibliographic
_____ Litigation
_____ Fulltext
_____ Other

Vendors and cost where applicable

754.92 STN _____ Dialog
_____ Questel/Orbit _____ Lexis/Nexis
_____ Westlaw _____ WWW/Internet
____ In-house sequence systems
____ Commercial ____ Oligomer ____ Score/Length
____ Interference ____ SPDI ____ Encode/Transl
_____ Other (specify)

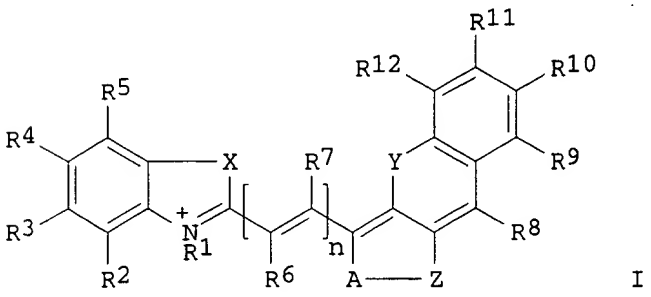
L14 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:646079 HCAPLUS
DOCUMENT NUMBER: 133:239376
ENTRY DATE: Entered STN: 15 Sep 2000
TITLE: Laser-compatible **NIR** marker dyes
INVENTOR(S): **Czerney, Peter; Lehmann, Frank**
PATENT ASSIGNEE(S): Dyomics, Germany
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
INT. PATENT CLASSIF.:
MAIN: C09B023-02
SECONDARY: C09B023-10; G01N033-58
CLASSIFICATION: 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 9
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000053678	A1	20000914	WO 2000-DE802	20000309
W: DE, US				
DE 19911421	A1	20001005	DE 1999-19911421	19990311
PRIORITY APPLN. INFO.:			DE 1999-19911421 A	19990311

PATENT CLASSIFICATION CODES:

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2000053678	ICM	C09B023-02
	ICS	C09B023-10; G01N033-58
DE 19911421	ECLA	C09B023/02; C09B023/10

OTHER SOURCE(S): MARPAT 133:239376
GRAPHIC IMAGE:



I

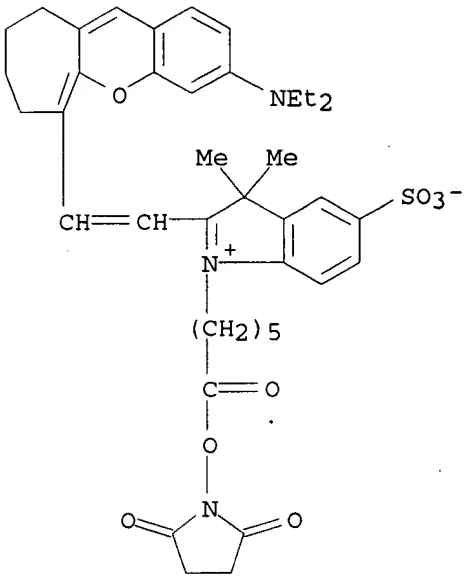
ABSTRACT:
The aim of the invention is to provide NIR-marker polymethine dyes such as I (R1-R12 = H, organic group, OH, ionizable group; X, Y = O, S, Se, imino, dialkylmethylene; A, Z = H; AZ together may form an aliphatic, heteroaliph., lactone, or thiolactone linkage; n = 1-3) with high photochem. and storage stability as well as high fluorescence yield, in which fluorescence can be

excited as simply as possibly by means of laser radiation in the visible or NIR spectral range. Thus, 3-(diethylamino)-6-(ethoxymethylene)-7,8,9,10-tetrahydro-6H-(5-oxoniacyclohepta[b]naphthalene) perchlorate was prepared and converted to 3-(diethylamino)-6-[2-[1-(5-carboxypentyl)-3,3-dimethyl-5-sulfonato-1,3-dihydro-2-indolylidenyl]ethylidene]-7,8,9,10-tetrahydro-6H-(5-oxoniacyclohepta[b]naphthalene) betaine. This compound after esterification with N-hydroxysuccinimide could be used to label human serum albumin.

SUPPL. TERM: fluorescent near IR dye biomarker prodn
INDEX TERM: Fluorescent dyes
Fluorescent dyes
(cyanine; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: Cyanine dyes
Cyanine dyes
(fluorescent; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: Cyanine dyes
(near-IR-absorbing; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: Fluorescent indicators
(production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: **293320-49-7P**
ROLE: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: **293320-32-8P 293320-34-0P**
293320-46-4P 293320-47-5P
293320-51-1P
ROLE: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: **293320-36-2P 293320-38-4P**
293320-40-8P 293320-42-0P
293320-44-2P 293320-45-3P
293320-48-6P 293320-53-3P
ROLE: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
INDEX TERM: **122-51-0**, Triethyl orthoformate **1497-49-0**
6066-82-6, N-Hydroxysuccinimide **20205-30-5**
21016-25-1 28140-60-5 89992-70-1
, 2-Cyanoethyl N,N-diisopropylchlorophosphoramidite
146368-08-3 182873-70-7
193824-32-7 198422-72-9
203525-41-1 293320-55-5
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(starting material; production of laser-compatible NIR fluorescent biomarker dyes)
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD.
REFERENCE(S): (1) Glazer; US 5760201 A 1998 HCAPLUS

(2) Hiroyuki, N; CHEMICAL REVIEWS 1992, P1197
(3) Hyperion Inc; WO 9641144 A 1996 HCAPLUS
(4) Molecular Probes Inc; WO 9424213 A 1994 HCAPLUS
(5) Molecular Probes Inc; WO 9613552 A 1996 HCAPLUS
(6) Univ Carnegie Mellon; DE 3912046 A 1990 HCAPLUS

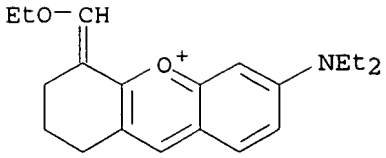
IT **293320-49-7P**
RL: BUU (Biological use, unclassified); IMF (Industrial manufacture); TEM (Technical or engineered material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
RN 293320-49-7 HCAPLUS
CN 3H-Indolium, 2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



IT **293320-32-8P 293320-34-0P 293320-46-4P**
293320-47-5P 293320-51-1P
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
RN 293320-32-8 HCAPLUS
CN Xanthylium, 6-(diethylamino)-4-(ethoxymethylene)-1,2,3,4-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

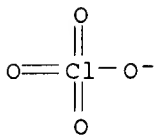
CM 1

CRN 293320-31-7
CMF C20 H26 N O2



CM 2

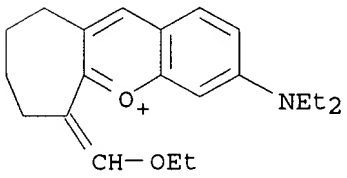
CRN 14797-73-0
CMF Cl O4



RN 293320-34-0 HCAPLUS
CN 6H-Benzo[b]cyclohepta[e]pyrylium, 3-(diethylamino)-6-(ethoxymethylene)-7,8,9,10-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

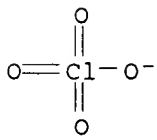
CM 1

CRN 293320-33-9
CMF C21 H28 N O2



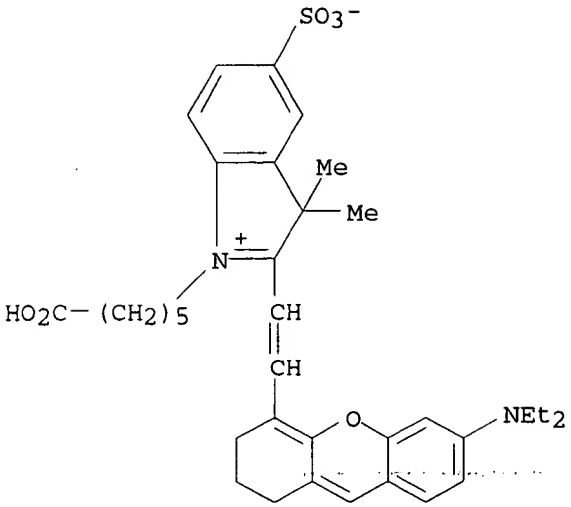
CM 2

CRN 14797-73-0
CMF Cl O4

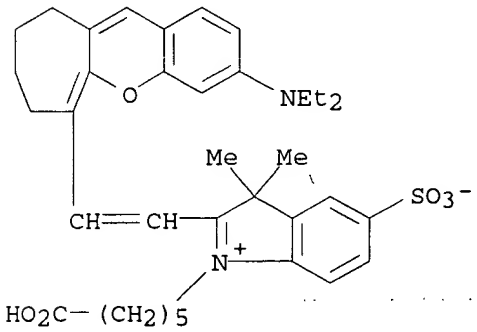


RN 293320-46-4 HCAPLUS
CN 3H-Indolium, 1-(5-carboxypentyl)-2-[2-[6-(diethylamino)-2,3-dihydro-1H-xanthen-4-yl]ethenyl]-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

THIS PAGE BLANK (USPTO)



RN 293320-47-5 HCAPLUS
CN 3H-Indolium, 1-(5-carboxypentyl)-2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

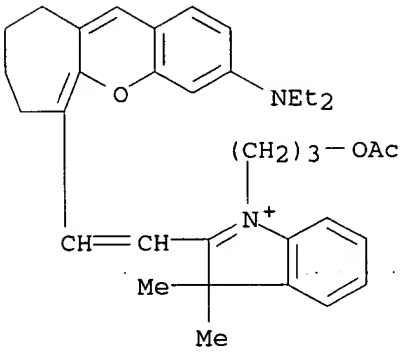


RN 293320-51-1 HCAPLUS
CN 3H-Indolium, 1-[3-(acetyloxy)propyl]-2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-3,3-dimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

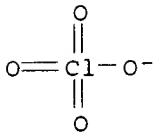
CRN 293320-50-0
CMF C35 H43 N2 O3

THIS PAGE BLANK (USPTO)



CM 2

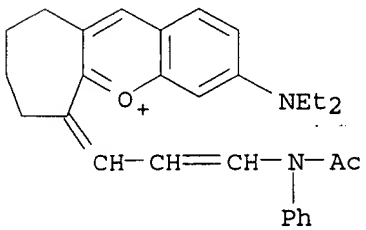
CRN 14797-73-0
CMF Cl O4



IT **293320-36-2P 293320-38-4P 293320-40-8P**
293320-42-0P 293320-44-2P 293320-45-3P
293320-48-6P 293320-53-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(dye; production of laser-compatible NIR fluorescent biomarker dyes)
RN 293320-36-2 HCAPLUS
CN 6H-Benzo[b]cyclohepta[e]pyrylium, 6-[3-(acetylphenylamino)-2-propenylidene]-3-(diethylamino)-7,8,9,10-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

CM 1

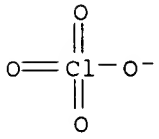
CRN 293320-35-1
CMF C29 H33 N2 O2



CM 2

THIS PAGE BLANK (USPTO)

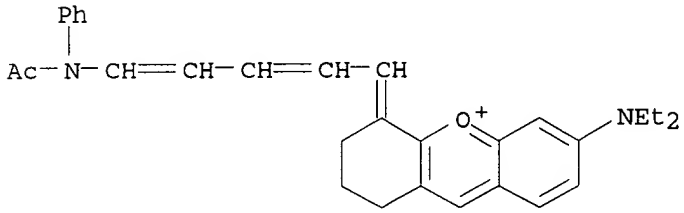
CRN 14797-73-0
CMF Cl O4



RN 293320-38-4 HCAPLUS
CN Xanthylium, 4-[5-(acetylphenylamino)-2,4-pentadienylidene]-6-(diethylamino)-1,2,3,4-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

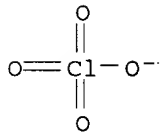
CM 1

CRN 293320-37-3
CMF C30 H33 N2 O2



CM 2

CRN 14797-73-0
CMF Cl O4

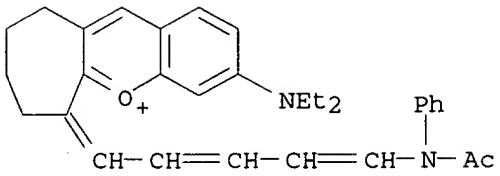


RN 293320-40-8 HCAPLUS
CN 6H-Benzo[b]cyclohepta[e]pyrylium, 6-[5-(acetylphenylamino)-2,4-pentadienylidene]-3-(diethylamino)-7,8,9,10-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

CM 1

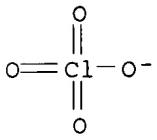
CRN 293320-39-5
CMF C31 H35 N2 O2

THIS PAGE BLANK (USPTO)



CM 2

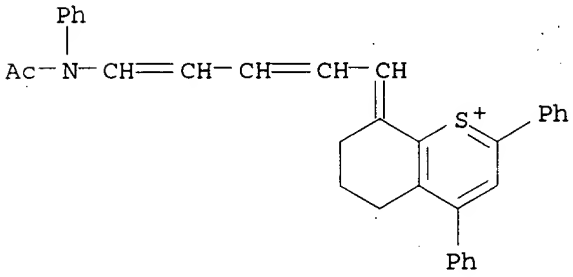
CRN 14797-73-0
CMF Cl O4



RN 293320-42-0 HCAPLUS
CN 1-Benzothiopyrylium, 8-[5-(acetylphenylamino)-2,4-pentadienylidene]-5,6,7,8-tetrahydro-2,4-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

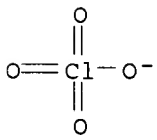
CM 1

CRN 293320-41-9
CMF C34 H30 N O S



CM 2

CRN 14797-73-0
CMF Cl O4

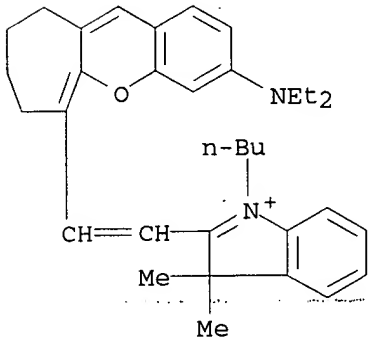


THIS PAGE BLANK (USPTO)

RN 293320-44-2 HCAPLUS
CN 3H-Indolium, 1-butyl-2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-3,3-dimethyl-, perchlorate (9CI) (CA INDEX NAME)

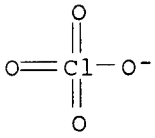
CM 1

CRN 293320-43-1
CMF C34 H43 N2 O



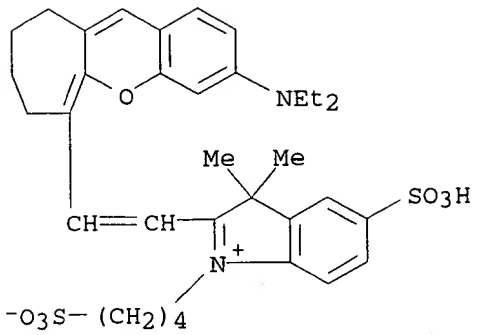
CM 2

CRN 14797-73-0
CMF Cl O4



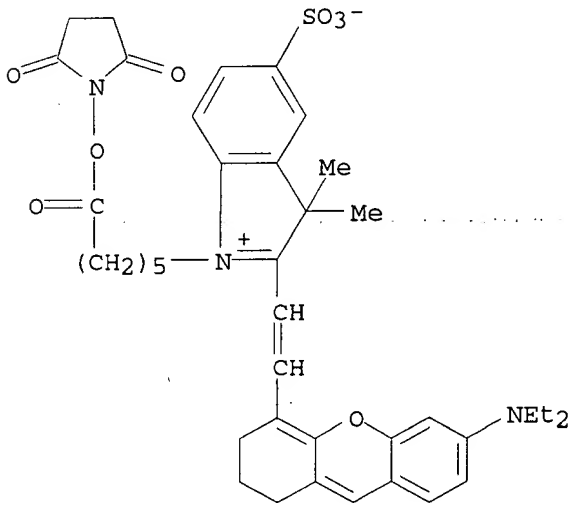
RN 293320-45-3 HCAPLUS
CN 3H-Indolium, 2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-3,3-dimethyl-5-sulfo-1-(4-sulfobutyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)

THIS PAGE BLANK (USPTO)



● K

RN 293320-48-6 HCAPLUS
CN 3H-Indolium, 2-[2-[6-(diethylamino)-2,3-dihydro-1H-xanthen-4-yl]ethenyl]-1-[6-[(2,5-dioxo-1-pyrrolidinyl)oxy]-6-oxohexyl]-3,3-dimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)

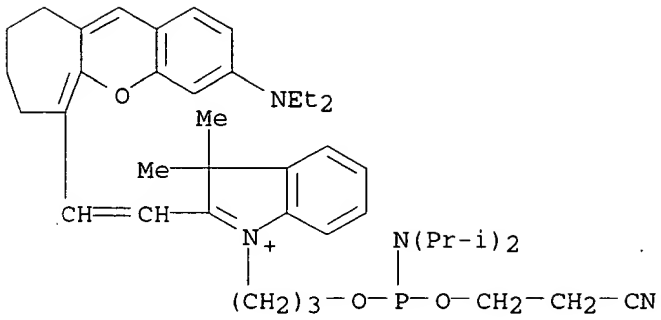


RN 293320-53-3 HCAPLUS
CN 3H-Indolium, 1-[3-[[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]oxy]propyl]-2-[2-[3-(diethylamino)-7,8,9,10-tetrahydrobenzo[b]cyclohepta[e]pyran-6-yl]ethenyl]-3,3-dimethyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

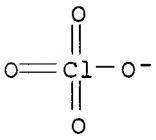
CRN 293320-52-2
CMF C42 H58 N4 O3 P

THIS PAGE BLANK (USPTO)

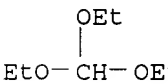


CM 2

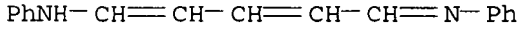
CRN 14797-73-0
CMF Cl O4



IT **122-51-0**, Triethyl orthoformate **1497-49-0**
6066-82-6, N-Hydroxysuccinimide **20205-30-5**
21016-25-1 28140-60-5 89992-70-1, 2-Cyanoethyl N,N-diisopropylchlorophosphoramidite **146368-08-3**
182873-70-7 193824-32-7 198422-72-9
203525-41-1 293320-55-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; production of laser-compatible NIR fluorescent biomarker dyes)
RN 122-51-0 HCAPLUS
CN Ethane, 1,1',1''-[methylidynetris(oxy)]tris- (9CI) (CA INDEX NAME)



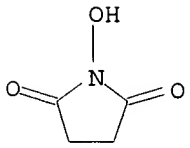
RN 1497-49-0 HCAPLUS
CN Benzenamine, N-[5-(phenylamino)-2,4-pentadienylidene]-, monohydrochloride (9CI) (CA INDEX NAME)



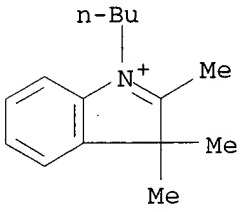
RN 6066-82-6 HCAPLUS

THIS PAGE BLANK (USPTO)

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



RN 20205-30-5 HCAPLUS
CN 3H-Indolium, 1-butyl-2,3,3-trimethyl-, iodide (8CI, 9CI) (CA INDEX NAME)

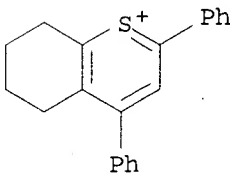


● I^-

RN 21016-25-1 HCAPLUS
CN 1-Benzothiopyrylium, 5,6,7,8-tetrahydro-2,4-diphenyl-, perchlorate (8CI, 9CI) (CA INDEX NAME)

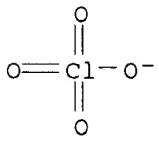
CM 1

CRN 48192-55-8
CMF C21 H19 S



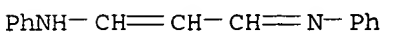
CM 2

CRN 14797-73-0
CMF Cl O4



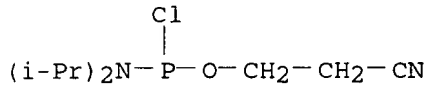
THIS PAGE BLANK (USPTO)

RN 28140-60-5 HCAPLUS
CN Benzenamine, N-[3-(phenylamino)-2-propenylidene]-, monohydrochloride (9CI) (CA INDEX NAME)

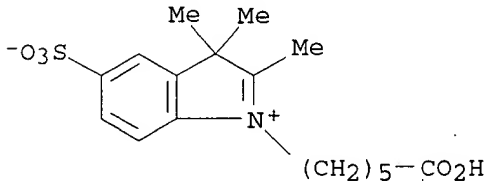


● HCl

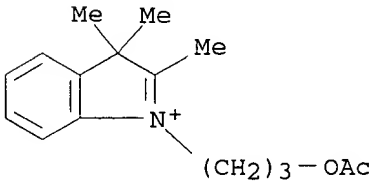
RN 89992-70-1 HCAPLUS
CN Phosphoramidochloridous acid, bis(1-methylethyl)-, 2-cyanoethyl ester (9CI) (CA INDEX NAME)



RN 146368-08-3 HCAPLUS
CN 3H-Indolium, 1-(5-carboxypentyl)-2,3,3-trimethyl-5-sulfo-, inner salt (9CI) (CA INDEX NAME)



RN 182873-70-7 HCAPLUS
CN 3H-Indolium, 1-[3-(acetyloxy)propyl]-2,3,3-trimethyl-, iodide (9CI) (CA INDEX NAME)



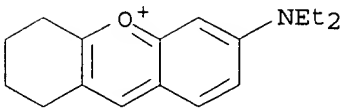
● I^-

RN 193824-32-7 HCAPLUS
CN Xanthylium, 6-(diethylamino)-1,2,3,4-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

THIS PAGE BLANK (USPTO)

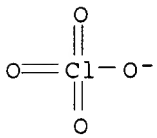
CM 1

CRN 193824-31-6
CMF C17 H22 N O

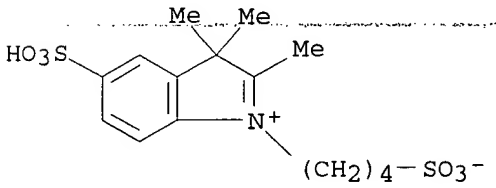


CM 2

CRN 14797-73-0
CMF Cl O4



RN 198422-72-9 HCAPLUS
CN 3H-Indolium, 2,3,3-trimethyl-5-sulfo-1-(4-sulfobutyl)-, inner salt, potassium salt (9CI) (CA INDEX NAME)

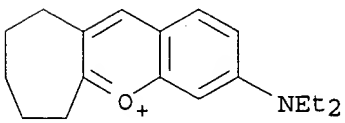


● K

RN 203525-41-1 HCAPLUS
CN 6H-Benzo[b]cyclohepta[e]pyrylium, 3-(diethylamino)-7,8,9,10-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

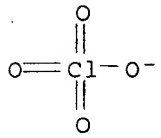
CM 1

CRN 203525-40-0
CMF C18 H24 N O



CM 2

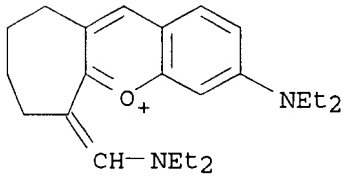
CRN 14797-73-0
CMF Cl O4



RN 293320-55-5 HCAPLUS
CN 6H-Benzo[b]cyclohepta[e]pyrylium, 3-(diethylamino)-6-[(diethylamino)methylene]-7,8,9,10-tetrahydro-, perchlorate (9CI) (CA INDEX NAME)

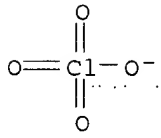
CM 1

CRN 293320-54-4
CMF C23 H33 N2 O

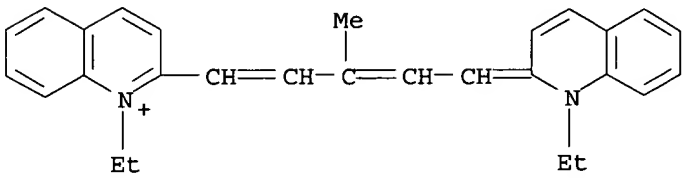


CM 2

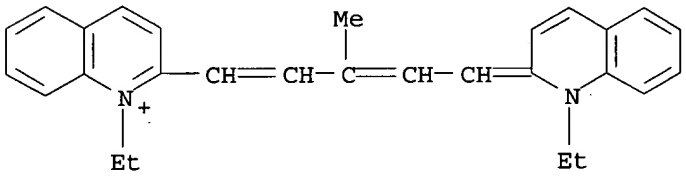
CRN 14797-73-0
CMF Cl O4



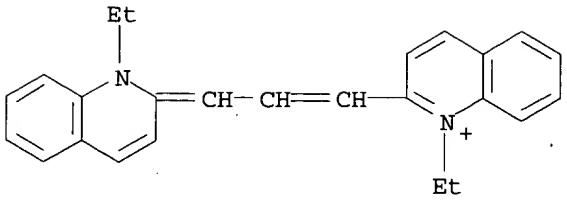
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-3-methyl-1,3-pentadienyl]-, radical ion(1+) (9CI) (CA INDEX NAME)



IT **97559-15-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation and dimerization of)
RN 97559-15-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-3-methyl-1,3-pentadienyl]- (9CI) (CA INDEX NAME)

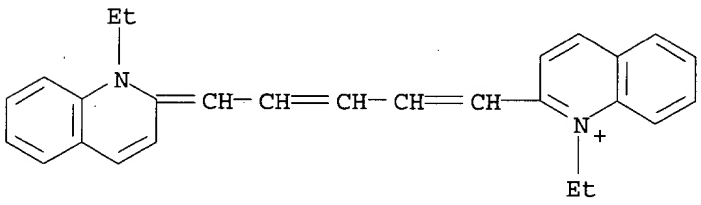


L29 ANSWER 50 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:157950 HCAPLUS
DOCUMENT NUMBER: 106:157950
TITLE: Calculation of the electronic structure of organic conjugated molecules
AUTHOR(S): Wang, Jiazhen; Han, Zhansheng; Tang, Yingwu; Song, Xinqi
CORPORATE SOURCE: Dep. Chem. Chem. Eng., Qinghua Univ., Beijing, Peop. Rep. China
SOURCE: Gaodeng Xuexiao Huaxue Xuebao (1986), 7(7), 629-33
CODEN: KTHPDM; ISSN: 0251-0790
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A set of exptl. parameters was selected for the PPP method by resonance theory of mol. structure. The electronic levels and the lowest excitation energy of triplet state of several organic conjugated mols. as well as the half-wave potential of some cyanine sensitizing dyes were evaluated using the PPP and CNDO/2 methods.
IT **605-91-4 14187-31-6**
RL: MSC (Miscellaneous)
(dyes, electronic structure of, calcn. of, by CNDO/2 and PPP methods)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

L29 ANSWER 51 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:516532 HCAPLUS
DOCUMENT NUMBER: 105:116532
TITLE: Nature of the absorption band of cyanine dyes with three terminal groups
AUTHOR(S): Briks, Yu. L.; Kachkovskii, A. D.; Tolmachev, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1985), 51(11), 1198-203
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

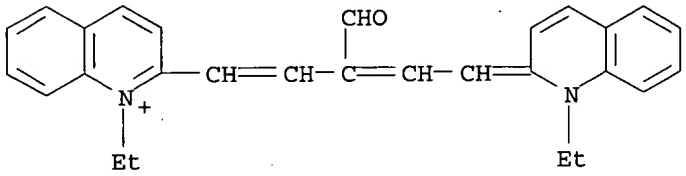
AB The title dyes (I; X = S, CMe2, NPh, CH:CH) were prepared by heating heterocyclic quaternary salts containing a 2-Me group with HC(CHO)3 in Ac2O containing NaOAc or with formyldicarbocyanines (II) in Ac2O. Similarly, II with 4-methyl(thia)pyrylium salts gave III (X1 = O, S). In the sym. trinuclear dyes, 2 degenerative electron transitions occurred and appeared as a single, broad absorption band. In the unsym. dyes degeneration was

reduced and 2 clearly defined absorption maximum were observed in the long wavelength region.

IT **104259-41-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction of, with pyrylium salt, cyanine dye from)
RN 104259-41-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-3-formyl-1,3-pentadienyl]-, perchlorate (9CI) (CA INDEX NAME)

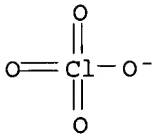
CM 1

CRN 76712-66-8
CMF C28 H27 N2 O



CM 2

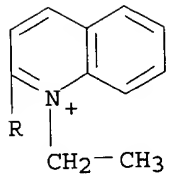
CRN 14797-73-0
CMF Cl O4

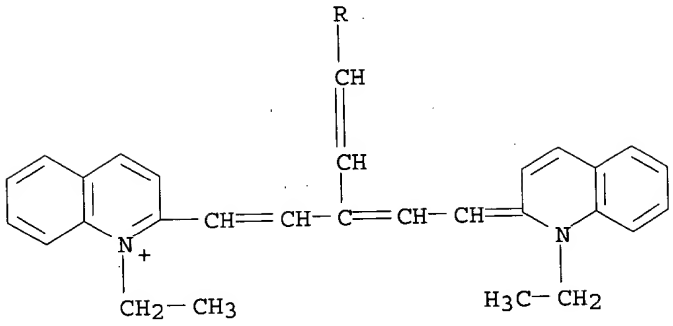


IT **104109-02-6P 104259-45-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and absorption spectra of)
RN 104109-02-6 HCAPLUS
CN Quinolinium, 2,2'-[3-[(1-ethyl-2(1H)-quinolinylidene)ethylidene]-1,4-pentadiene-1,5-diyl]bis[1-ethyl-, diperchlorate (9CI) (CA INDEX NAME)

CM 1

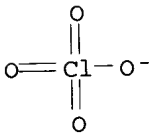
CRN 47845-01-2
CMF C40 H39 N3





CM 2

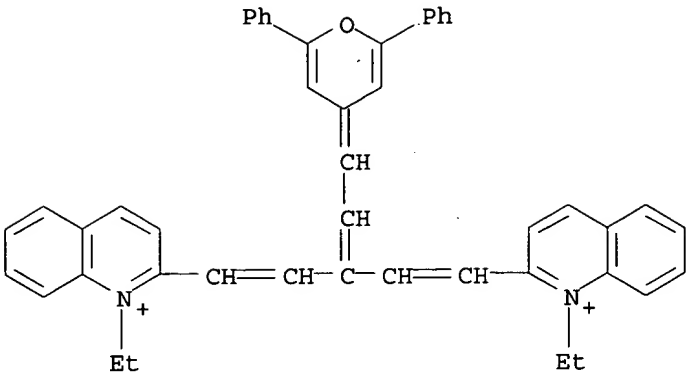
CRN 14797-73-0
CMF Cl O4



RN 104259-45-2 HCAPLUS
CN Quinolinium, 2,2'-[3-[(2,6-diphenyl-4H-pyran-4-ylidene)ethylidene]-1,4-pentadiene-1,5-diyl]bis[1-ethyl-, diperchlorate (9CI) (CA INDEX NAME)

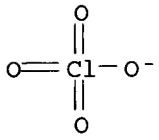
CM 1

CRN 104259-44-1
CMF C46 H40 N2 O



CM 2

CRN 14797-73-0
CMF Cl O4



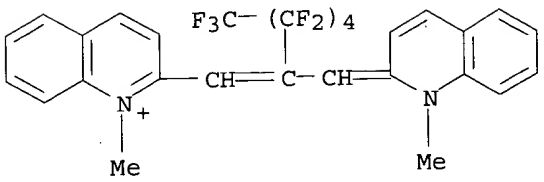
L29 ANSWER 52 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:407937 HCAPLUS
DOCUMENT NUMBER: 105:7937
TITLE: β-(Perfluoroalkyl)carbocyanines
AUTHOR(S): Yagupol'skii, L. M.; Pazenok, S. V.; Kondratenko, N. V.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1986), 22(1), 163-9
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 105:7937

AB Benzoselenazole, 2-quinoline, 4-quinoline, indole, benz[e]indole, and benzimidazole tricarbocyanine dyes with β-perfluoroalkyl substituents were prepared and the influence of the perfluoroalkyl groups on the color of the dyes was studied. Introduction of the perfluoroalkyl substituents in 2-quinoline and indole carbocyanine dyes caused a bathochromic shift of the absorption maximum The β substituents caused a hypsochromic shift in 4-quinoline and benz[e]indole carbocyanines, but had no influence on the benzimidazole carbocyanines.

IT **102693-52-7**
RL: PRP (Properties)
(spectral properties of, perfluoroalkyl substituent effect on)
RN 102693-52-7 HCAPLUS
CN Quinolinium, 2-[3,3,4,4,5,5,6,6,7,7,7-undecafluoro-2-[(1-methyl-2(1H)-quinolinylidene)methyl]-1-heptenyl]-1-methyl-, perchlorate (9CI) (CA INDEX NAME)

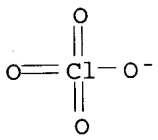
CM 1

CRN 102693-51-6
CMF C28 H20 F11 N2

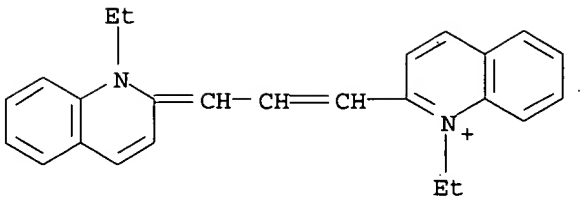


CM 2

CRN 14797-73-0
CMF Cl O4

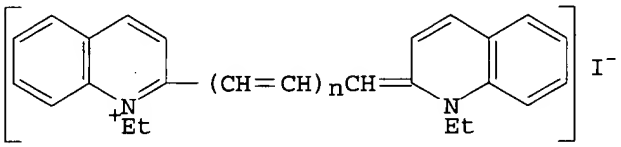


L29 ANSWER 53 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:90474 HCAPLUS
DOCUMENT NUMBER: 104:90474
TITLE: Photophysical parameters of pinacyanol from nonlinear absorption measurements using nanosecond laser pulses
AUTHOR(S): Stiel, Holger; Teuchner, Klaus; Daehne, Siegfried
CORPORATE SOURCE: Zentralinst. Opt. Spektrosk., Dtsch. Akad. Wiss., Berlin, 1199, Ger. Dem. Rep.
SOURCE: Zeitschrift fuer Chemie (1985), 25(7), 264-5
CODEN: ZECEAL; ISSN: 0044-2402
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Pinacyanol [**605-91-4**], a fluorescent potential laser switching dye, shows a nonlinear transmission curve in EtOH for excitation frequency 594 nm, with 26.3-40% switching. A model involving 4 energy levels was used to explain the observation.
IT **605-91-4**
RL: USES (Uses)
(photophys. parameters of, from nonlinear absorption measurements using nanosecond laser pulses)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)

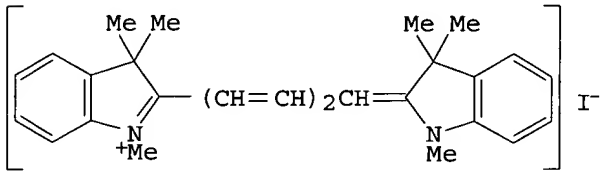


● I^-

L29 ANSWER 54 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1986:35458 HCAPLUS
DOCUMENT NUMBER: 104:35458
TITLE: The resonance Raman spectra of some cyanine dyes
AUTHOR(S): Yang, J. P.; Callender, R. H.
CORPORATE SOURCE: City Coll., City Univ. New York, New York, NY, 10031, USA
SOURCE: Journal of Raman Spectroscopy (1985), 16(5), 319-21
CODEN: JRSPAF; ISSN: 0377-0486
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

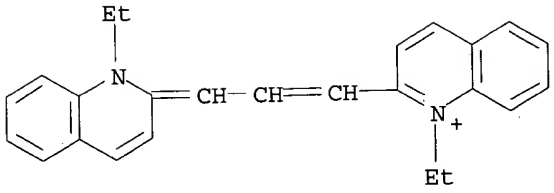


II

AB The resonance Raman spectra of a series of cyanine dyes (I; n = 0-3) were obtained. Raman spectra of II [36536-22-8] were also measured. The Raman bands were assigned to normal modes arising from particular mol. moieties. For comparison purposes, the **IR** spectra of these dyes are also presented.

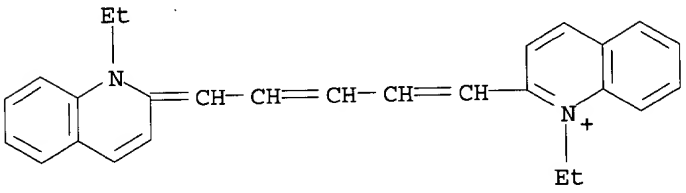
IT **605-91-4 14187-31-6 17695-32-8**
RL: PRP (Properties)
(resonance Raman spectra of)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



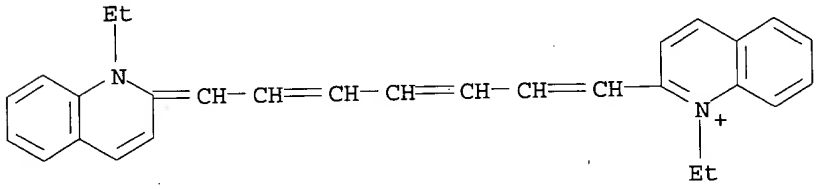
● I^-

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

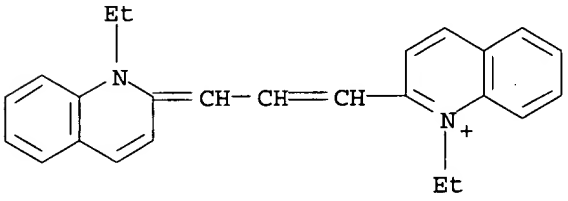
RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

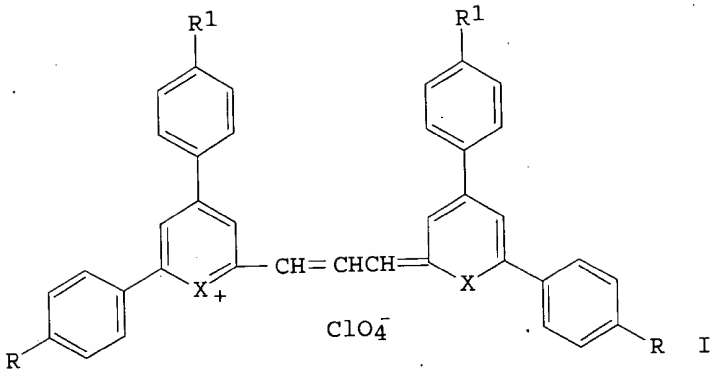
L29 ANSWER 55 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1985:102731 HCAPLUS
DOCUMENT NUMBER: 102:102731
TITLE: Determination of lifetimes and transient absorption spectra of polymethine dyes from picosecond spectroscopic measurements

AUTHOR(S): Rentsch, S.; Danielius, R.; Gadonas, R.
CORPORATE SOURCE: Sekt. Phys., Friedrich-Schiller-Univ., Jena, DDR-6900, Ger. Dem. Rep.
SOURCE: Journal fuer Signalaufzeichnungsmaterialien (1984), 12(5), 319-28
CODEN: JSZMAE; ISSN: 0323-598X
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The lifetimes τ of the S1 state of a series of polymethine dyes, ranging from 10 to 150 ps, were determined by picosecond spectroscopy techniques from their transient absorption and fluorescence spectra. The extinction coeffs. of the transient absorption with the maximum between 500 and 600 nm amount to ε ≈ 105 L mol-1 cm-1. In the near-**IR** region, they are 1 order of magnitude lower. The results are discussed in terms of the participating absorption and relaxation processes.
IT **605-91-4**
RL: PRP (Properties)
(singlet-state lifetime of, picosecond transient absorption spectroscopy in determination of)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

L29 ANSWER 56 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1985:80259 HCAPLUS
DOCUMENT NUMBER: 102:80259
TITLE: Pyrylocyanines. 20. Symmetric methoxy-substituted tetraphenylpyrylocyanines and their heteroanalogs
AUTHOR(S): Gavrilyuk, I. M.; Ishchenko, A. A.; Kudinova, M. A.; Tolmachev, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, 252660, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1984), (11), 1486-91
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian
OTHER SOURCE(S): CASREACT 102:80259
GI



AB Anal. of the visible and near **IR** spectra of I (R, R1 = H, OMe; X = O, S, NMe) shows that there is greater participation of the C-C bonds of the heterocycle ring in the system of conjugation for the O and S heterocycles than for the N heterocycle. The I (X = O, S) were prepared from the 2,4-diaryl-6-methylpyrylium or -thiopyrylium salts and HC(OEt)3. The I (X = NMe) were prepared from the corresponding I (X = O) and MeNH2. The OMe substituents have a bathochromic effect, both in CH2Cl2 and in MeCN.

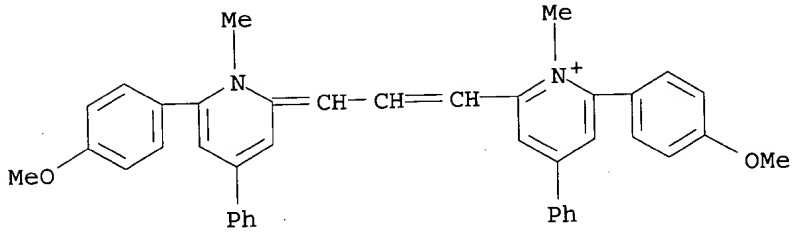
IT **94663-83-9P 94663-85-1P 94663-87-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and spectra of)

RN 94663-83-9 HCAPLUS

CN Pyridinium, 2-(4-methoxyphenyl)-6-[3-[6-(4-methoxyphenyl)-1-methyl-4-phenyl-2(1H)-pyridinylidene]-1-propenyl]-1-methyl-4-phenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

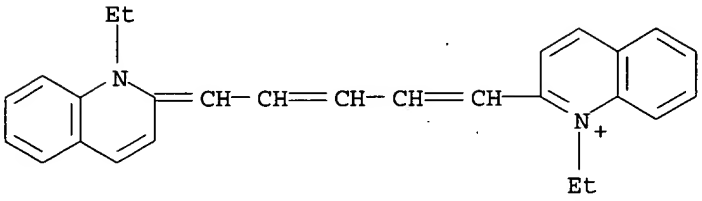
CRN 94663-82-8
CMF C41 H37 N2 O2



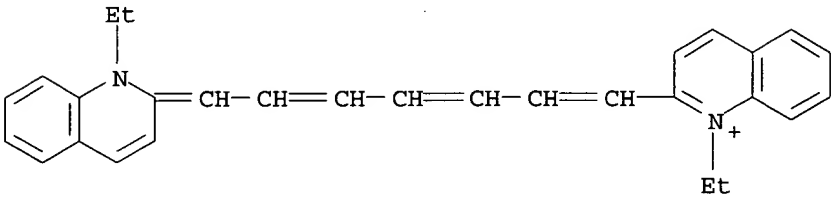
CM 2

CRN 14797-73-0
CMF Cl O4

RN 37069-60-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)



RN 37069-61-7 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]- (9CI) (CA INDEX NAME)

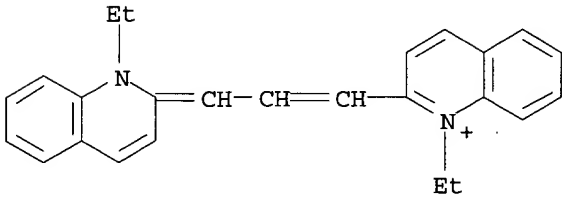


L29 ANSWER 49 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:516950 HCAPLUS
DOCUMENT NUMBER: 107:116950
TITLE: Electrochemical and spectroscopic analyses of the thermodynamics of the reversible dimerization of cyanine radical dications
AUTHOR(S): Lenhard, J. R.; Parton, R. L.
CORPORATE SOURCE: Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA
SOURCE: Journal of the American Chemical Society (1987), 109(19), 5808-13
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English

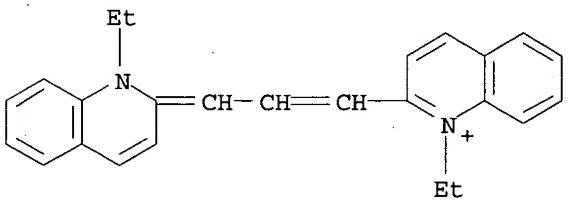
AB Radical dications initially formed during the one-electron oxidation of alkyl-substituted cationic dicarbocyanine dyes underwent reversible dimerization in MeCN at room temperature The site of radical-radical coupling was determined by NMR spectroscopy to be at an approachable even-methine carbon of polymethine chain. The C-C bond dissociation energy in the dimer was determined for a series of variously substituted dicarbocyanines from the temperature dependence of UV-visible spectra and ranged from 12.2 to 16.8 kcal/mol. The corresponding free entropy change involved with the dimer dissociation process ranged from 21 to 32 eu. Upon consideration of the dicarbocyanine structures, the exptl. results can be interpreted in terms of steric destabilization of the covalently bonded dimer.

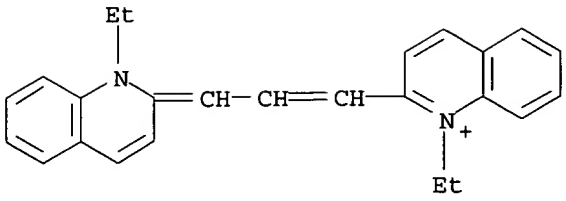
IT **109977-78-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dimerization of)
RN 109977-78-8 HCAPLUS

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



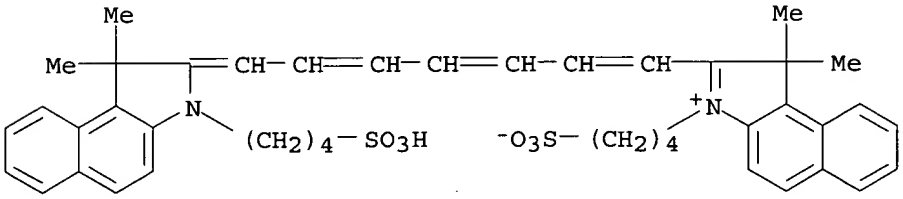
L29 ANSWER 48 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1987:625182 HCAPLUS
DOCUMENT NUMBER: 107:225182
TITLE: A comparison of the singlet-singlet and triplet-triplet spectra of some typical symmetrical cyanine dyes
AUTHOR(S): Naqvi, K. Razi
CORPORATE SOURCE: Dep. Phys., Univ. Trondheim-AVH, Dragvoll, N-7055, Norway
SOURCE: Spectroscopy Letters (1987), 20(4), 319-30
CODEN: SPLEBX; ISSN: 0038-7010
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The triplet-triplet (T-T) spectra of 12 sym. cyanine dyes were recorded by using flash photolysis in the presence of triplet state sensitizers. Three sets of dyes were studied, each set comprising 4 members which differ from one another by the length of the bridge joining 2 identical nuclei (quinoline or benzthiazole); the internuclear linking is made by one =CH-, or by a chain composed of 3, 5, or 7 such groups. Excluding the shortest member of each set, the remaining 9 dyes follow a common trend; the wavenumber of the 0-0 vibrational peak of the most intense T-T absorption band is linearly related to that of the 0-0 peak of the 1st singlet-singlet absorption band.
IT **20187-38-6 37069-60-6 37069-61-7**
RL: PRP (Properties)
(absorption spectra of)
RN 20187-38-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]- (9CI) (CA INDEX NAME)





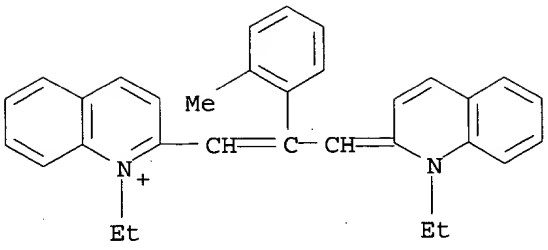
● I^-

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

L29 ANSWER 47 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:188427 HCAPLUS
DOCUMENT NUMBER: 108:188427
TITLE: Picosecond studies of dimer relaxation processes in cyanine dyes in dependence of temperature
AUTHOR(S): Maschke, R.; Rentsch, S.; Khetschinaschwili, D.
CORPORATE SOURCE: Friedrich-Schiller-Univ., Jena, Ger. Dem. Rep.
SOURCE: Teubner-Texte zur Physik (1986), 10(Ultrafast Phenom. Spectrosc.), 230-3
CODEN: TTPHE2; ISSN: 0233-0911
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The ratio of pinacyanol excited monomers and dimers was calculated in dependence on the intensity of the exciting pulse using the absorption cross sections and the mass action constant of monomers and dimers. The results agreed with the values obtained from the $\Delta D(\lambda, t = 0)$ spectrum. The excited monomer decayed in a few picoseconds, the dimer in a few hundred picoseconds. The decay processes were accelerated by increasing temperature The fitting of the exptl. curves of $\Delta D(t)$ resulted in an extremely high number of fast-relaxing particles. For the explanation of this fact a pseudo-dissociation of dimers was proposed.
IT **605-91-4**, Pinacyanol
RL: PRP (Properties)
(photochem. self association of, relaxation of, temperature effect on)



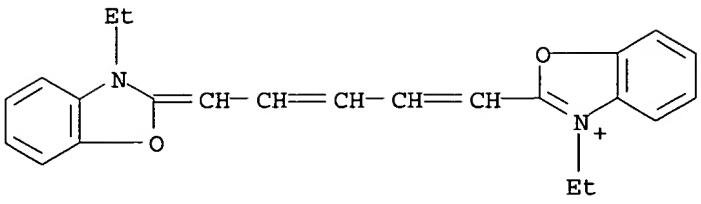
● I^-

L29 ANSWER 46 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:463117 HCAPLUS
DOCUMENT NUMBER: 109:63117
TITLE: Dye sensitization of van der Waals surfaces of tin disulfide photoanodes
AUTHOR(S): Parkinson, Bruce A.
CORPORATE SOURCE: Cent. Res. Dev. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, 19898, USA
SOURCE: Langmuir (1988), 4(4), 967-76
CODEN: LANGD5; ISSN: 0743-7463
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The sensitization of the van der Waals surface of SnS2 (Eg = 2.22 eV) with >30 different dyes (λmax < 2.2 eV) was studied. The van der Waals surface of this material has several advantages for studying sensitization. It is renewable via cleavage and lacks an oxide layer under ambient conditions. The relevance of the electrochem. properties of the dyes to their sensitization behavior is discussed. Adsorption isotherms for many of the dyes were measured by relating quantum yield for electron injection to surface coverage. Both J and H aggregates and monomeric dye species sensitize n-SNS2. The photocurrent-voltage behavior of the dye was interpreted by using Spitler's theory of electron injection into semiconductors. Sensitized photocurrents were also studied as a function of light intensity and supersensitizer concentration to aid the qual. theor. anal. Several unusual effects associated with the layered structure of the semiconductor were observed including dye intercalation, total internal reflection of the incident light, and surface phase changes.

IT **605-91-4**, Pinacyanol **3599-32-4**, **IR**-125
RL: PRP (Properties)
(sensitization of van der Waals surfaces of tin disulfide photoanodes by)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)

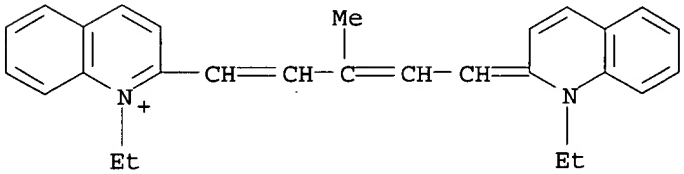


● I^-

RN 116450-48-7 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-3-methyl-1,3-pentadienyl]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

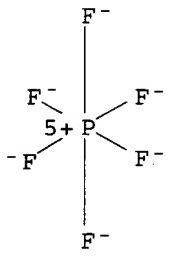
CM 1

CRN 97559-15-4
CMF C28 H29 N2



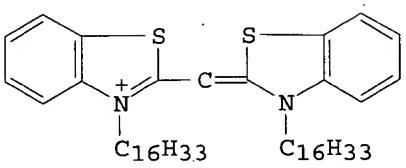
CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS



RN 116450-49-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-2-(2-methylphenyl)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)

GI

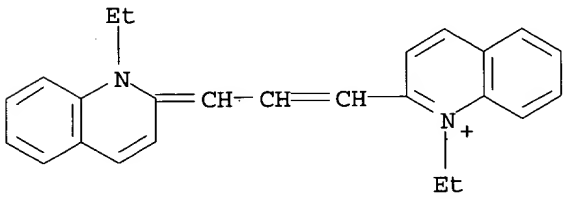


I

AB A photog. imaging system is disclosed comprising an imaging dye or a precursor thereof, a hardenable organic component containing ethylenic unsatn. sites and capable of imagewise modulating mobility of the dye or dye precursor as a function of addition at the sites of ethylenic unsatn., and coinitiators for ethylenic addition The coinitiators include an azinium salt activator and a photosensitizer which is a dye exhibiting a reduction potential which in relation to that of the ionized azinium salt activator is ≤0.1 V more pos., and when the photosensitizer is a keto dye having its principal absorption peak at a wavelength <550 nm, it exhibits when excited by imaging radiation and intersystem crossing efficiency to a triplet state of <10%. The system produces primary dye images efficiently with radiation of any desired wavelength in the visible spectrum and can exhibit sensitivity extending into near **IR** region. Thus, a composition containing Ph 1,2,4-tri(2-acryloyoxy Et carboxylate), 2-acryloyloxy Et benzoate, 1-methoxy-4-Ph pyridinium tetrafluoroborate (reduction potential-0.75 V), and I (λmax 430 nm, reduction potential -1.45 V) was highly effective in forming images.

IT **2768-90-3 14806-50-9 116450-48-7 116450-49-8**
RL: USES (Uses)
(photosensitizer, in photoimaging composition reduction potential in relation to)

RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl^-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

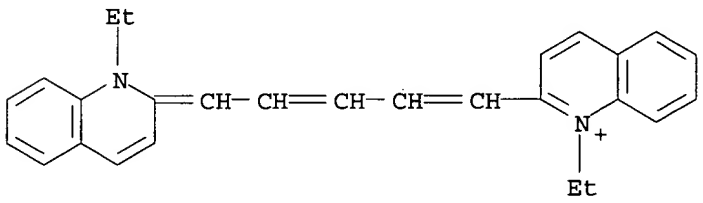
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The correlations between the structure and some properties of croconium and related cyanine dyes are discussed. PPP MO calcns. show that the croconium dyes have the same chromophoric system as cyanines. The λmax of the croconium dyes undergoes a bathochromic shift of .apprx.120 nm compared with the corresponding cyanine dyes. This shift can be calculated by the PPP MO method. Neg. solvatochromism is observed for croconium dyes. Croconium dyes generally have better solubility than squarylium dyes in organic solvents and have good lightfastness in solvents, greatly improved by adding a Ni complex as a stabilizer.

IT **14187-31-6**
RL: PRP (Properties)
(absorption spectra of, substituent effect on)

RN 14187-31-6 HCAPLUS

CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

L29 ANSWER 45 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1988:539163 HCAPLUS
DOCUMENT NUMBER: 109:139163
TITLE: Dye-sensitized photographic imaging system
INVENTOR(S): Farid, Samir Y.; Haley, Neil F.; Moody, Roger E.; Specht, Donald P.
PATENT ASSIGNEE(S): Eastman Kodak Co., USA
SOURCE: U.S., 25 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4743531	A	19880510	US 1986-933712	19861121
CA 1329042	A1	19940503	CA 1987-547870	19870925
JP 63138345	A2	19880610	JP 1987-292194	19871120
EP 269397	A2	19880601	EP 1987-310306	19871123
EP 269397	A3	19881207		

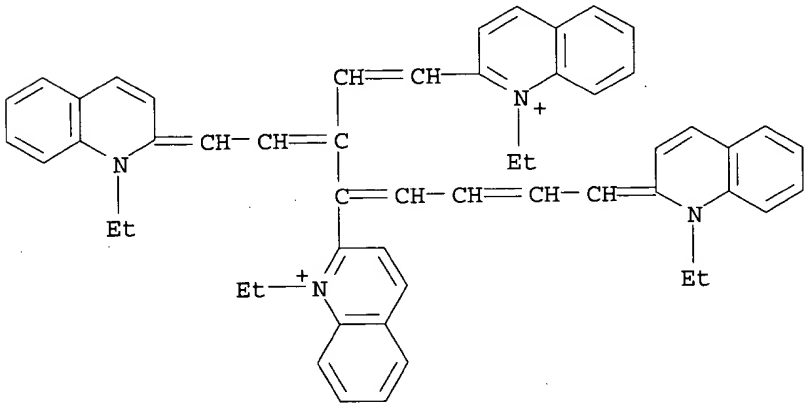
R: DE, FR, GB

PRIORITY APPLN. INFO.: US 1986-933658 A 19861121
US 1986-933660 A 19861121
US 1986-933712 A 19861121

RN 123811-99-4 HCAPLUS
CN Quinolinium, 2,2'-[4-[4-(1-ethyl-2(1H)-quinolinylidene)-2-butenylidene]-3-[(1-ethyl-2(1H)-quinolinylidene)ethylidene]-1-butene-1,4-diyl]bis[1-ethyl-, bis[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

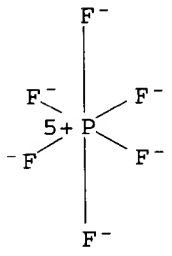
CM 1

CRN 123811-98-3
CMF C54 H52 N4



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS



L29 ANSWER 44 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1989:175116 HCAPLUS
DOCUMENT NUMBER: 110:175116
TITLE: Syntheses and some properties of **infrared** -absorbing croconium and related dyes
AUTHOR(S): Yasui, Shigeo; Matsuoka, Masaru; Kitao, Teijiro
CORPORATE SOURCE: Nippon Kankoh-Shikiso Kenkyusho Co. Ltd., Okayama, 701-02, Japan
SOURCE: Dyes and Pigments (1989), Volume Date 1988, 10(1), 13-22
CODEN: DYPIDX; ISSN: 0143-7208

SOURCE: Journal of Organic Chemistry (1990), 55(1), 49-57
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

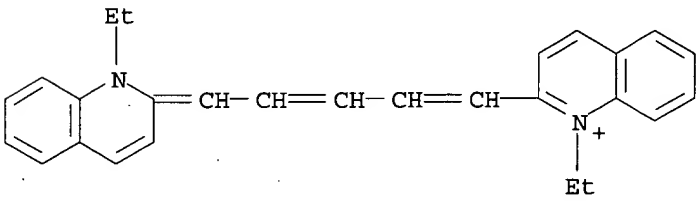
AB Radical dications formed during the one-electron oxidation of representative cationic dicarbocyanine (pentamethine) dyes lacking alkyl substitution on the even-numbered carbon atoms of the methine chain underwent irreversible dimerization in MeOH or MeCN solution Deprotonation of the resultant UV-absorbing dimer gave a dicationic bis-dye with spectral properties similar to those of the parent dye. These bis-dyes were susceptible to further oxidation via a reversible two-electron mechanism to yield a highly unsatd., cross-conjugated, tetracationic species. The chemical of radical dications derived from the one-electron oxidation of carbocyanine (trimethine) dyes depended on the nature of the dye heterocycle as well as the degree of alkyl substitution in the methine chain. Some thiacarbocyanine radical dications irreversibly dimerized and gave products analogous to those observed for dicarbocyanines. A persistent radical dication was obtained by the one-electron oxidation of an indolocarbocyanine and a chain-substituted thiacarbocyanine dye.

IT **123811-95-0P 123811-99-4P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and spectral properties of)

RN 123811-95-0 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

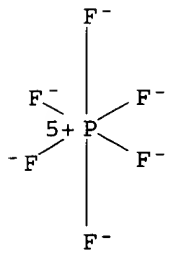
CM 1

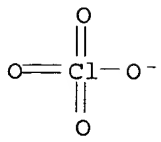
CRN 37069-60-6
CMF C27 H27 N2



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS

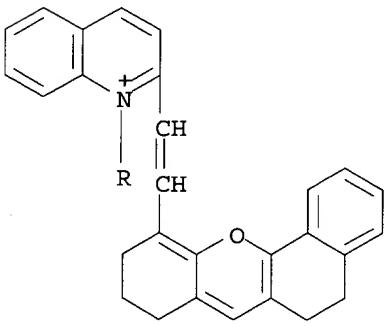


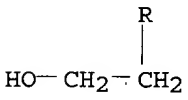


RN 129296-90-8 HCAPLUS
CN Quinolinium, 1-(2-hydroxyethyl)-2-[2-(5,8,9,10-tetrahydro-6H-benzo[c]xanthen-11-yl)ethenyl]-, perchlorate (salt) (9CI) (CA INDEX NAME)

CM 1

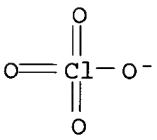
CRN 129296-89-5
CMF C30 H28 N O2



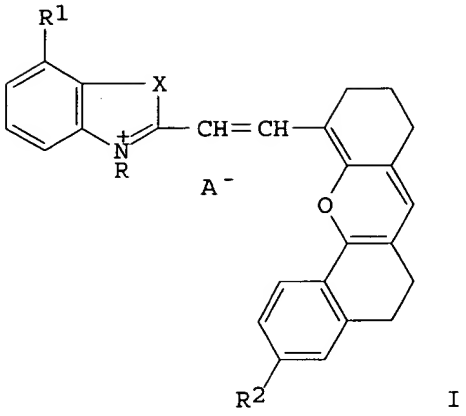


CM 2

CRN 14797-73-0
CMF Cl O4



L29 ANSWER 43 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:38114 HCAPLUS
DOCUMENT NUMBER: 112:38114
TITLE: Dimerization reactions of cyanine radical dications
AUTHOR(S): Parton, R. L.; Lenhard, J. R.
CORPORATE SOURCE: Res. Lab., Eastman Kodak Co., Rochester, NY, 14650, USA



I

AB The synthesis of asym. trimethine cyanine dyes (I; R = Me, Et, allyl, hydroxyethyl; R1 = H; R2 = H, OMe; X = O, S, CH:CH, CMe2; R1X = CH:CH:CH:C; A = ClO4, Br, I) is described. The absorption maximum of the dyes is within the range 687-793 nm.

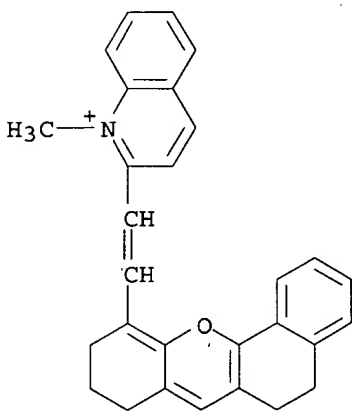
IT **129296-88-4P 129296-90-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and near-**IR** absorption spectra of)

RN 129296-88-4 HCAPLUS

CN Quinolinium, 1-methyl-2-[2-(5,8,9,10-tetrahydro-6H-benzo[c]xanthen-11-yl)ethenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 129296-87-3
CMF C29 H26 N O

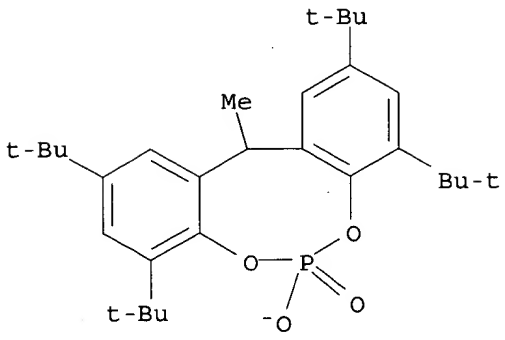


CM 2

CRN 14797-73-0
CMF Cl O4

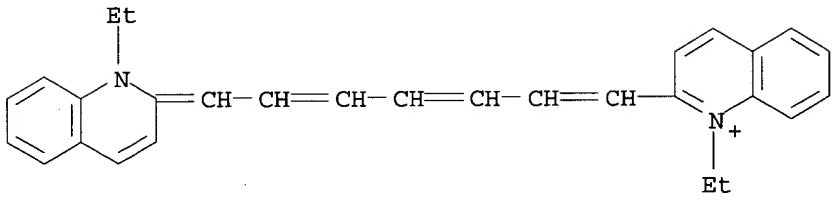
CM 1

CRN 130154-32-4
CMF C30 H44 O4 P

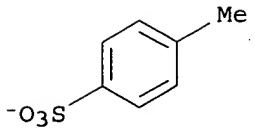


CM 2

CRN 37069-61-7
CMF C29 H29 N2



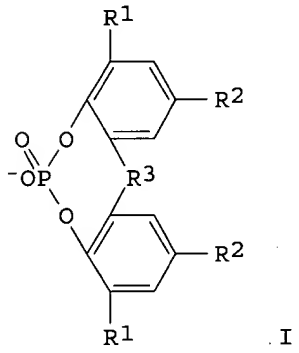
L29 ANSWER 42 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:534161 HCAPLUS
DOCUMENT NUMBER: 113:134161
TITLE: Near-**infrared** absorbing asymmetrical trimethine cyanine dyes
AUTHOR(S): Gadzhev, N.; Deligeorgiev, T.
CORPORATE SOURCE: Fac. Chem., Univ. Sofia, Sofia, 1126, Bulg.
SOURCE: Dyes and Pigments (1990), 14(1), 73-77
CODEN: DYPIDX; ISSN: 0143-7208
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



L29 ANSWER 41 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1990:601455 HCAPLUS
DOCUMENT NUMBER: 113:201455
TITLE: Optical recording materials with good information storage stability
INVENTOR(S): Akutsu, Mitsuo; Kubota, Naohiro
PATENT ASSIGNEE(S): Adeka Argus Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01201388	A2	19890814	JP 1988-26279	19880205
PRIORITY APPLN. INFO.:			JP 1988-26279	19880205

OTHER SOURCE(S): MARPAT 113:201455
GI

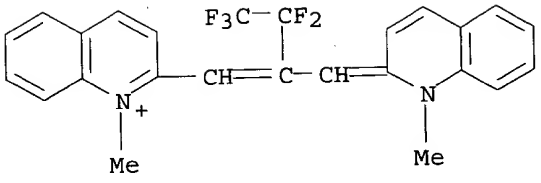


I

AB The title materials, which can be used with low-energy visible and near-**IR lasers**, comprise salts of cyanine dye cations and organic phosphate anions I (R1, R2 = H, alkyl; R3 = direct bond, alkylidene, S).

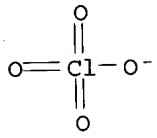
IT **130154-34-6**
RL: USES (Uses)
(optical recording media based on)

RN 130154-34-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, salt with 2,4,8,10-tetrakis(1,1-dimethylethyl)-6-hydroxy-12-methyl-12H-dibenzo[d,g][1,3,2]dioxaphosphocin 6-oxide (1:1) (9CI) (CA INDEX NAME)



CM 2

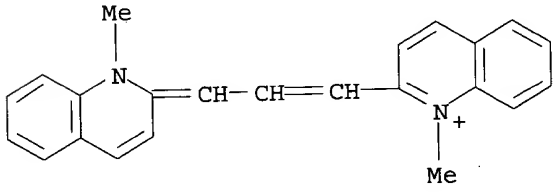
CRN 14797-73-0
CMF Cl O4



IT **2871-11-6**
RL: PRP (Properties)
(redox potential of, substitution mechanism in electrochem. reaction of nitrogen-containing heterocyclic bases with heptafluoropropyl iodide in relation to)
RN 2871-11-6 HCAPLUS
CN Quinolinium, 1-methyl-2-[3-(1-methyl-2(1H)-quinolinylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

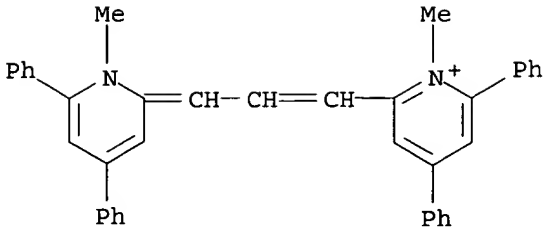
CM 1

CRN 36954-41-3
CMF C23 H21 N2



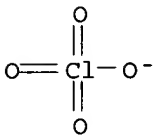
CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



CM 2

CRN 14797-73-0
CMF Cl O4



L29 ANSWER 40 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1991:25807 HCAPLUS
DOCUMENT NUMBER: 114:25807
TITLE: Electrochemical initiation of ion-radical reactions of perfluoroalkyl halides. I. Electrochemical synthesis of β-perfluoroalkyl carbocyanine dyes
AUTHOR(S): Ignat'ev, N. V.; Datsenko, S. D.; Pazenok, S. V.; Yagupol'skii, L. M.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1990), 26(8), 1740-6
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian

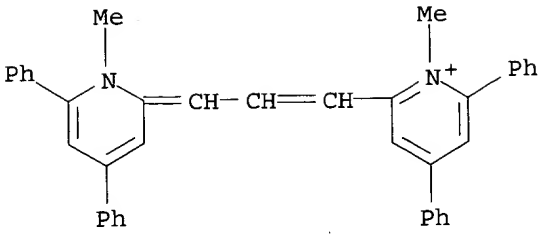
AB β-Perfluoroalkyl carbocyanine dyes were prepared electrochem. under controlled potential at a Pt cathode by reaction of CF3CF2CF2I with methylene bases of N-containing heterocycles (indole, benzothiazole, lepidine, quinaldine). A SRN1 mechanism was proposed for this reaction based on the redox potentials of the initial methylene bases, CF3CF2CF2I, the obtained β-perfluoroalkyl carbocyanines, and the corresponding carbocyanine dyes.

IT **88505-21-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by electrochem. reaction of nitrogen-containing heterocyclic
methylene bases with heptafluoropropyl iodide, nucleophilic substitution mechanism in, redox potential in relation to)

RN 88505-21-9 HCAPLUS
CN Quinolinium, 1-methyl-2-[3,3,4,4,4-pentafluoro-2-[(1-methyl-2(1H)-quinolinylidene)methyl]-1-butenyl]-, perchlorate (9CI) (CA INDEX NAME)

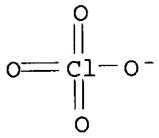
CM 1

CRN 88505-20-8
CMF C25 H20 F5 N2



CM 2

CRN 14797-73-0
CMF Cl O4



L29 ANSWER 39 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1992:580723 HCAPLUS
DOCUMENT NUMBER: 117:180723
TITLE: Vibronic interaction and shape of electron absorption bands of polymethine dyes
AUTHOR(S): Ishchenko, A. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, Ukraine
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1991), 57(11), 1166-71
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian

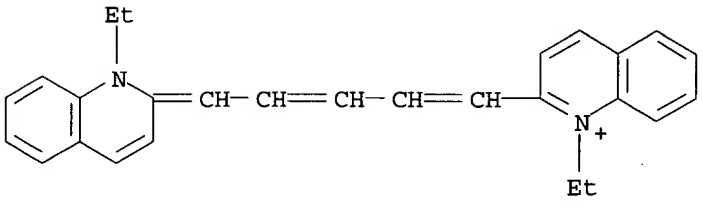
AB The principal types of vibrations were analyzed, determining the shape of the vibronic absorption bands of polymethine dyes. Formulas were obtained, relating the higher central moments of these bands to the magnitude of the squared variations of the bond orders during excitation of the cyanine mols. On the basis of quantum mech. calcns., these values can predict the tendency for a change to occur in the absorption band shape of polymethine dyes as a function of their structures. Some 24 dyes were studied.

IT **75547-08-9**
RL: PRP (Properties)
(electronic absorption band shape and vibronic interaction of)

RN 75547-08-9 HCAPLUS
CN Pyridinium, 1-methyl-2-[3-(1-methyl-4,6-diphenyl-2(1H)-pyridinylidene)-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 75547-07-8
CMF C39 H33 N2



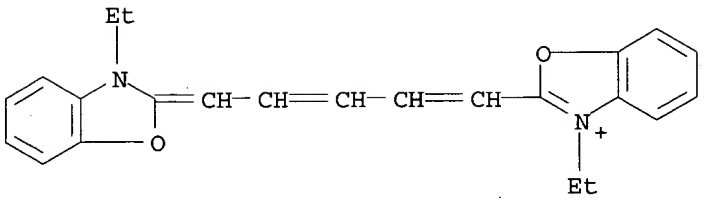
L29 ANSWER 38 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:253939 HCAPLUS
DOCUMENT NUMBER: 122:67154
TITLE: Nature of heteroatom and spectral-luminescence properties of pyrylocyanine dyes
AUTHOR(S): Ishchenko, A. A.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, Ukraine
SOURCE: Optika i Spektroskopiya (1994), 77(5), 771-6
CODEN: OPSPAM; ISSN: 0030-4034
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Using the examples of tetra-Ph-substituted pyrylo-2 and pyrylo-4-cyanines, and their S-, Se-, and N-containing analogs, heteroatom effects on spectral-luminescence properties were studied. Substitution of O by S, Se, and NMe increases the Stokes shift. By quantum chemical anal. of the bond orders of ground and excited states, this shift is discussed with respect to the mol. geom. (decrease of Ph group angle with chromophore plane upon excitation). Relations were obtained which link the width, asymmetry, and excess of the vibronic bands with the frequency and shape of the chromophore vibrations corresponding with the long-wave π-π^* transition. With the assistance of these relations, it is shown that the changes in the absorption and fluorescence bands upon transition from pyrylo- to thiopyrylo- and pyridocyanine- is determined principally by vibronic interactions, and transition to selenopyrylocyanine- by the heavy-atom effect.

IT **75547-08-9**
RL: PRP (Properties)
(nature of heteroatom and spectral-luminescence properties of pyrylocyanine dyes)
RN 75547-08-9 HCAPLUS
CN Pyridinium, 1-methyl-2-[3-(1-methyl-4,6-diphenyl-2(1H)-pyridinylidene)-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 75547-07-8
CMF C39 H33 N2



● I^-

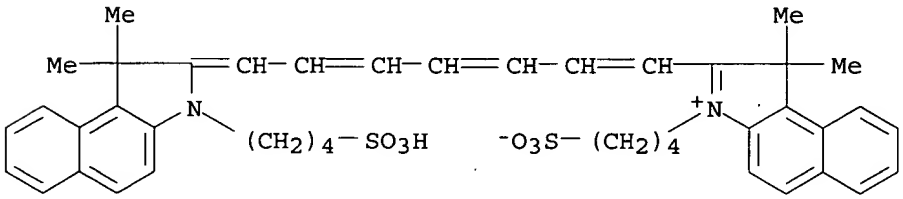
L29 ANSWER 37 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:327176 HCAPLUS
DOCUMENT NUMBER: 125:13287
TITLE: Dicarbocyanine dyes in methanol solution probed by depolarized Rayleigh and hyper-Rayleigh light scattering
AUTHOR(S): Song, Ok-Keun; Wang, C. H.
CORPORATE SOURCE: Dep. Chem., Univ. Nebraska Lincoln, Lincoln, NE, 68588-0304, USA
SOURCE: Journal of Chemical Physics (1996), 104(21), 8230-8236
CODEN: JCPSA6; ISSN: 0021-9606
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The hyper-Rayleigh scattering (HRS) intensity of two sym. carbocyanine dyes (1,1'-diethyl-4,4'- and 1,1'-diethyl-2,2'-dicarbocyanine) in methanol is measured as a function of dye concentration These dye mols. at equilibrium show a negligible permanent dipole moment. The low concentration data showing that the HRS intensity is proportional to the dye concentration are used to determine the first hyperpolarizability for each of these dyes. However, above a concentration ρb = 0.1 + 10-3 M, the HRS intensity shows an anomalous concentration dependence. Above ρb, the HRS intensity shows a saturation behavior and it even decreases with increasing concentration at high dye concentration At lowest concentration, the depolarization ratio is 0.18. As the dye concentration increases, the depolarization ratio also rapidly increases but the increase quickly sats. as the concentration exceeds ρb. The concentration dependence of the HRS intensity and depolarization ratio are interpreted as due to formation of mol. aggregates. The depolarized Rayleigh scattering (DRS) intensity is also measured as a function of dye concentration The result of DRS corroborates well with that found in HRS.

IT **37069-60-6**
RL: PRP (Properties)
(dicarbocyanine dyes in methanol solution probed by depolarized Rayleigh and hyper-Rayleigh light scattering)
RN 37069-60-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)

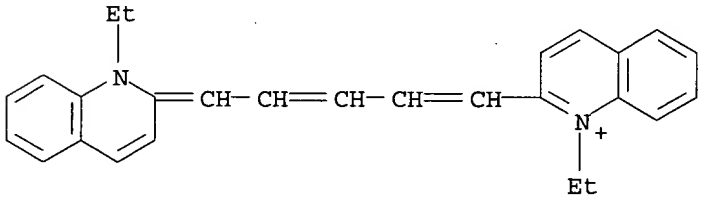
1,1'-Diethyl-2,2'-dicarbocyanine iodide **14806-50-9**,
3,3'-Diethyloxadicarbocyanine iodide
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(biospecific multiparameter assay method with microparticle solid supports for bioaffinity reagents)

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



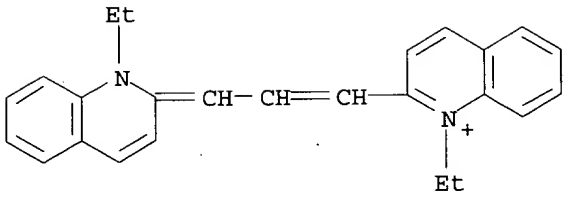
● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● Cl^-

L29 ANSWER 36 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:569646 HCAPLUS
DOCUMENT NUMBER: 125:216392
TITLE: A biospecific multiparameter assay method
INVENTOR(S): Soini, Erkki; Hanninen, Pekka; Soini, Juhani
PATENT ASSIGNEE(S): Finland
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

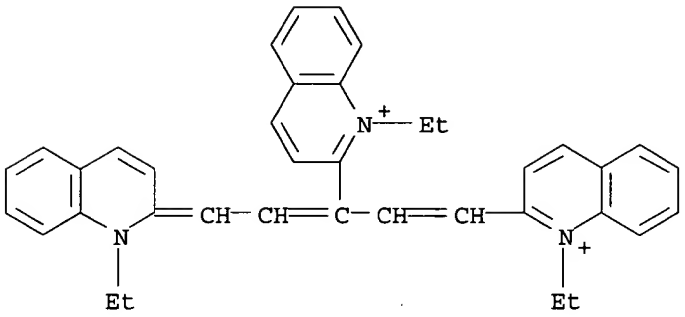
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9622531	A1	19960725	WO 1996-FI4	19960103
W: CA, DE, FI, JP, SE, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FI 96641	B	19960415	FI 1995-175	19950116
FI 96641	C	19960725		
FI 9501040	A	19960908	FI 1995-1040	19950307
FI 101829	B1	19980831		
EP 804732	A1	19971105	EP 1996-900108	19960103
EP 804732	B1	20011010		
R: DE, FR, GB, SE				
JP 10512670	T2	19981202	JP 1996-522062	19960103
JP 3215428	B2	20011009		
US 5891738	A	19990406	US 1997-817753	19970513

PRIORITY APPLN. INFO.:
FI 1995-175 A 19950116
FI 1995-1040 A 19950307
WO 1996-FI4 W 19960103

AB The object of this invention is an improved method for a biospecific multiparameter (i.e., multianalyte) assay, e.g., especially immunoassay and DNA hybridization assay, based on the use of different categories of microparticles as solid support for different bioaffinity reagents. This invention allows the use of microparticles of small size and with very moderate monodispersity and conventional short decay time fluorescent labels for labeling the biospecific reactants. The high sensitivity of this method is based on the use of confocal excitation and detection, or alternatively, 2-photon excitation for measurement of the biospecific reaction. The identification of the category of the microparticle is based on the use of fluorescent or Raman scattering indicators associated with the microparticles representing different analytes.

IT **3599-32-4**, **IR**-125 **14187-31-6**,

1,3-diyl]bis[1-ethyl-, diiodide (9CI) (CA INDEX NAME)



●2 I⁻

L29 ANSWER 35 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1996:726262 HCAPLUS
DOCUMENT NUMBER: 126:122890
TITLE: Formation of fluorocarbon surfactant reversed micelles in a halosolvent
AUTHOR(S): Lai, Chung-Li; O'Rear, Edgar A.; Harwell, Jeffrey H.
CORPORATE SOURCE: Inst. of Applied Surfactant Research, Univ. of Oklahoma, Norman, OK, 73019, USA
SOURCE: Journal of Colloid and Interface Science (1996), 183(1), 166-175
CODEN: JCISA5; ISSN: 0021-9797
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The constitution of reversed micelles of C6F13COOH (perfluoroheptanoic acid, PFHA) in a chlorofluorocarbon medium (1,1,2-trichlorotrifluoroethane, TCFE) was characterized by a number of techniques, including **IR**, NMR, and UV-visible and fluorescence probes. Dimensions of these reversed micelles were determined by quasielastic light scattering. With increasing concentration of surfactant in TCFE, the estimated diameter of the water pool in the reversed micelles increased, the estimated aggregation number of the reversed micelles increased, and the estimated wt% water increased. These ests. were consistent with the results of the probe studies and Karl Fischer titrns. Adsorption of fluoroacids from this solvent onto alumina showed cooperative interactions between head groups.

IT **2768-90-3**, Pinacyanol chloride
RL: NUU (Other use, unclassified); USES (Uses)
(pinacyanol chloride color changes as indication of perfluoroheptanoic acid reversed micelle formation in trichlorotrifluoroethane)
RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)

	Arrhenius, Peter Olaf Gustaf; Hsu, Mao-Lin
PATENT ASSIGNEE(S):	Hyperion, Inc., USA
SOURCE:	PCT Int. Appl., 78 pp.
	CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	9

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9641144	A2	19961219	WO 1996-US8935	19960604
WO 9641144	A3	19970206		
W: CA, CN, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5880287	A	19990309	US 1995-476544	19950606
JP 2001517296	T2	20011002	JP 1997-501385	19960604

PRIORITY APPLN. INFO.:

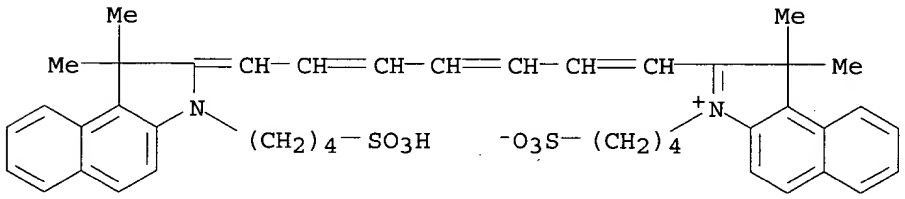
US 1995-476544	A	19950606
US 1990-524212	B2	19900515
US 1991-701449	A3	19910515
US 1991-701465	B1	19910515
US 1994-333603	A2	19941102
US 1994-346098	A2	19941129
WO 1996-US8935	W	19960604

AB Fluorescent dyes comprising a fluorophore moiety which comprises a luminescent substantially planar mol. structure with excitation wavelength ≥500 nm, bonded to one or more polyoxyhydrocarbylene moieties, are free of aggregation and serum binding and thus suitable for applications such as fluorescence immunoassays, in vivo imaging and in vivo tumor therapy. Immunoassay methods utilizing these dyes are thus particularly useful for the assay of biol. fluids, such as serum, plasma, whole blood and urine.

IT **3599-32-4D**, **IR** 125, polyoxyethylene derivs.
40071-05-4D, polyoxyethylene derivs.
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(polyoxyhydrocarbylene-modified marker components for use in fluorescence immunoassays)

RN 3599-32-4 HCAPLUS

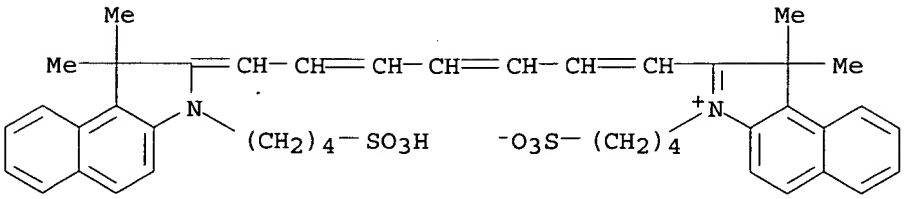
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

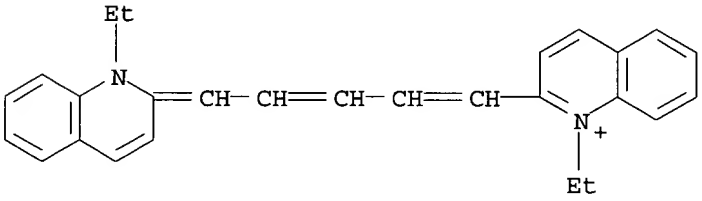
RN 40071-05-4 HCAPLUS

CN Quinolinium, 2,2'-[3-[(1-ethyl-2(1H)-quinolinylidene)ethylidene]-1-propene-



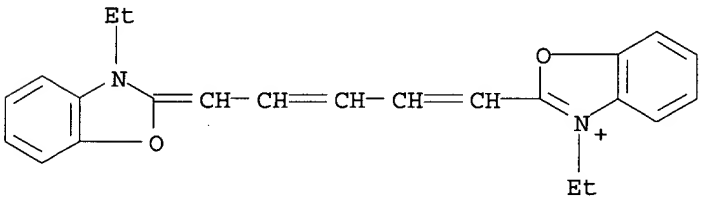
● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



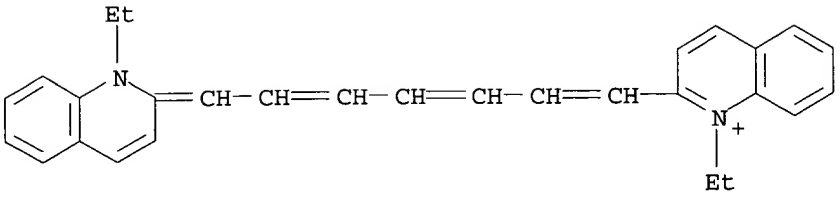
● I⁻

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



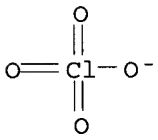
● I⁻

L29 ANSWER 34 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:132797 HCAPLUS
DOCUMENT NUMBER: 126:145372
TITLE: Polyoxyhydrocarbylene-modified marker components for use in fluorescence immunoassays
INVENTOR(S): Dandliker, Walter Beach; Devlin, Robert Francis;

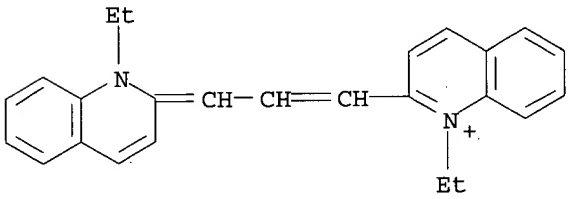


CM 2

CRN 14797-73-0
CMF Cl O4

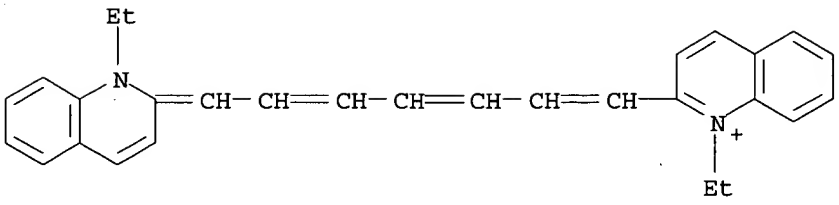


IT **605-91-4**, Pinacyanol **3599-32-4**, **IR**-125
14187-31-6, DDI **14806-50-9**
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(polyacrylamide gel-based solid-state dye **laser** hosts)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● I^-

L29 ANSWER 33 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:204438 HCAPLUS
DOCUMENT NUMBER: 126:256922
TITLE: Solid-state dye **laser** host
INVENTOR(S): Kessler, William J.; Davis, Steven J.; Ferguson, Daniel R.; Pugh, Evan R.
PATENT ASSIGNEE(S): Physical Sciences, Inc., USA
SOURCE: U.S., 17 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5610932	A	19970311	US 1995-377656	19950125
PRIORITY APPLN. INFO.:			US 1995-377656	19950125

AB Solid-state dye **laser** media comprise a polyacrylamide gelatin solid host doped with a **laser** dye. Processes for formulating the solid-state dye **laser** hosts entail combining acrylamide with a crosslinking agent in the presence of catalysts and initiators, and, before a polymerization reaction which formulates a substantially gelatin structure, doping the acrylamide mixture with a **laser** dye having one or more base solvents. **Lasers** employing the media are also described. The solid state dye host may exhibit self healing after photobleaching due to dye migration within the encapsulated form.

IT **57472-19-2**, DTP
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(DTP; polyacrylamide gel-based solid-state dye **laser** hosts)

RN 57472-19-2 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

CRN 37069-61-7
CMF C29 H29 N2

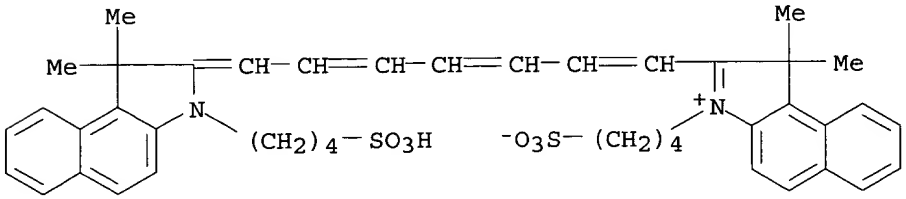
L29 ANSWER 32 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:490757 HCAPLUS
DOCUMENT NUMBER: 127:142845
TITLE: Image-forming material for presensitized lithographic plate and image forming method
INVENTOR(S): Hirai, Katsura; Kudo, Shinji; Kizu, Noriyuki
PATENT ASSIGNEE(S): Konica Co., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09171254	A2	19970630	JP 1996-268640	19961009
US 6391512	B1	20020521	US 1996-723457	19961015
JP 2004118228	A2	20040415	JP 2004-15109	20040123
PRIORITY APPLN. INFO.:			JP 1995-272491 A	19951020
			JP 1996-268640 A3	19961009

AB The title material comprises a support coated with a photosensitive layer containing a compound generating an acid upon active ray irradiation, a compound having ≥1 acid-decomposable bond, and an **IR** absorbent. The acid-decomposable compound may have (CH2CH2O)n (n = 2-5) group. The material is imagewise exposed by using visible light of wavelength ≥700 nm or **IR** rays followed by removing the exposed area with an alkaline developing solution to form an image. The material shows high sensitivity toward **IR** rays, good developability, and storage stability.

IT **3599-32-4 17695-32-8**
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(image forming material containing acid generator, acid-decomposable compound, and **IR** absorbent for lithog. plate)

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09230126	A2	19970905	JP 1996-36273	19960223
PRIORITY APPLN. INFO.:			JP 1996-36273	19960223

AB The composition contains a photopolymerizable acrylic resin having polymerizable unsatd. group, an ethylenic unsatd. compound, a coloring pigment, cation dye-borate anion complex, and a photopolymn. initiator except the complex. A color filter is manufactured by a process including following successive steps; (1) forming a photosensitive coating film made of the above composition on a transparent substrate, (2) pattern-wise exposing the film to near **IR** to cure the exposed area, (3) developing to remove the non-exposed area, and optional (4) heating. The steps may be repeated to give a multicolor filter. The resin composition shows good storage stability and good curability.

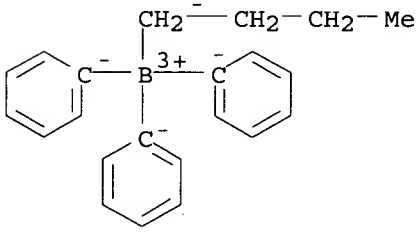
IT **141714-60-5**
RL: CAT (Catalyst use); USES (Uses)
(polymerization initiator; near **IR**-curable acrylic resin composition containing cation dye-borate complex as polymerization initiator for manufacture of color filter)

RN 141714-60-5 HCAPLUS

CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, (T-4)-butyltriphenylborate(1-) (9CI) (CA INDEX NAME)

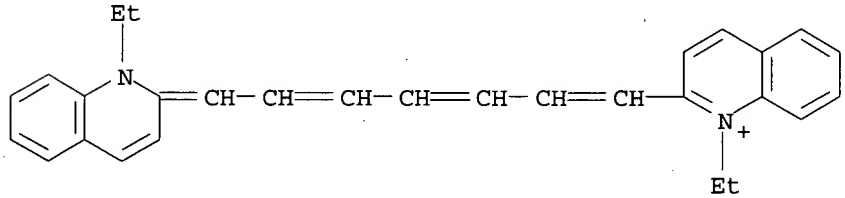
CM 1

CRN 47252-39-1
CMF C22 H24 B
CCI CCS



CM 2

CRN 37069-61-7
CMF C29 H29 N2



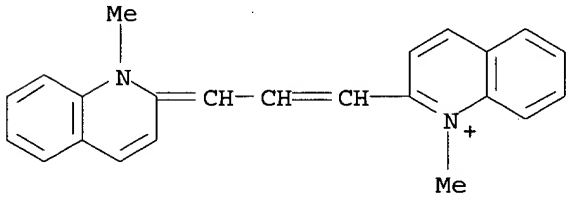
thus, the image can be produced by using a 10 m/s scanning spot of **laser** radiation beam (spot diameter of 30 μm, 30 mW) at 785 nm. The sensitivity was increased 20x in comparison with a conventional Xe lamp exposure.

IT **201555-54-6**
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(sensitizing photopolymn. system for image formation with **laser** diode)

RN 201555-54-6 HCAPLUS
CN Quinolinium, 1-methyl-2-[3-(1-methyl-2(1H)-quinolinylidene)-1-propenyl]-, 2-naphthalenesulfonate (9CI) (CA INDEX NAME)

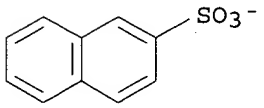
CM 1

CRN 36954-41-3
CMF C23 H21 N2



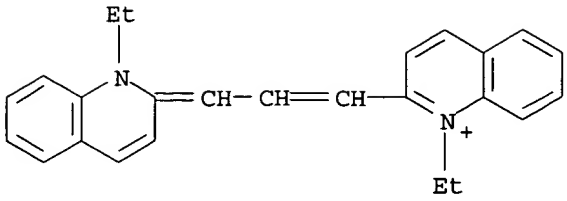
CM 2

CRN 16023-36-2
CMF C10 H7 O3 S

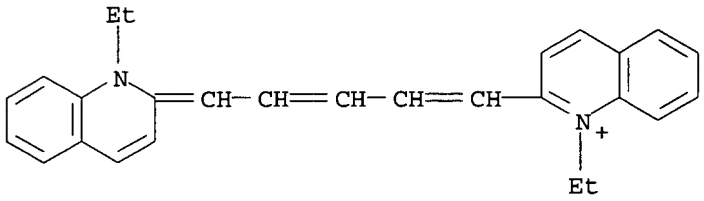


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

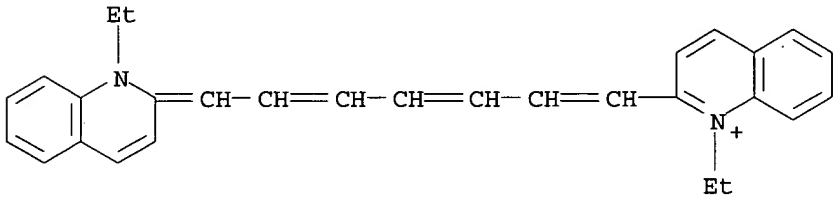
L29 ANSWER 31 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:618318 HCAPLUS
DOCUMENT NUMBER: 127:301273
TITLE: Near **infrared** ray-sensitive colored resin composition for color filter and manufacture of color filter
INVENTOR(S): Tamura, Koichi; Nakaya, Eisaku; Kojima, Daisuke
PATENT ASSIGNEE(S): Kansai Paint Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:



RN 37069-60-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)



RN 37069-61-7 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 96 THERE ARE 96 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

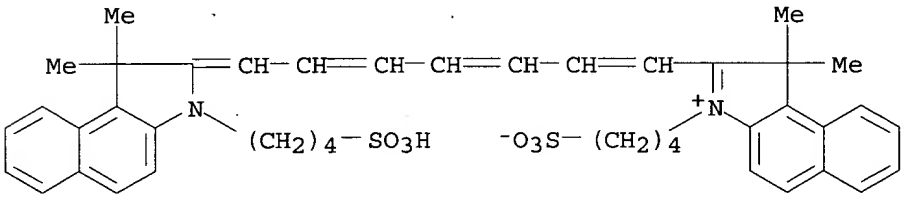
L29 ANSWER 30 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:31480 HCAPLUS
DOCUMENT NUMBER: 128:121606
TITLE: Photopolymerization system thermally accelerated by a **laser** diode
AUTHOR(S): Urano, Toshiyuki; Nagasaka, Hideki; Shimizu, Makoto; Yamaoka, Tsuguo
CORPORATE SOURCE: Research Center, Mitsubishi Chemical Corporation, Yokohama, Japan
SOURCE: Journal of Imaging Science and Technology (1997), 41(4), 407-412
CODEN: JIMTE6; ISSN: 1062-3701
PUBLISHER: Society for Imaging Science and Technology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Thermal effect on sensitivity of photopolymn. systems containing 2, 4, 6-tris(trichloromethyl)-1,3,5-triazine(TRI) and urethane acrylate (U1) was studied. The photopolymn. system was sensitized by an **IR** cyanine dye and irradiated with a **laser** radiation diode (LD),

Orsay, 91405, Fr.
SOURCE: Journal of Photochemistry and Photobiology, A: Chemistry (1998), 114(1), 1-22
CODEN: JPPCEJ; ISSN: 1010-6030
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Transient absorption in several sym. cyanine and carbocyanine dyes is measured by time-resolved spectroscopy with subpicosecond white-light continuum in a wide spectral range (0.35-1 μm). The results are compared with data available in the literature on ultrashort and long-lived transients. The linear shift law observed here for the S1Sn absorption bands in the wavelength scale allows one to predict the main induced absorption bands for members of several carbocyanine families (vinylogous series) which have not yet been studied. In the case of the shortest methine chains (cyanines and monocarbocyanines) a few transient absorption bands are assigned to the formation of photoisomers. The absolute values of the excited-state or photoisomer cross sections of polymethine carbocyanines are evaluated by global spectral anal., from the measured differential optical d. spectra. Several cases of large values (higher than 10) of the absorption cross section ratio (excited/ground state) are found at new wavelengths, which allows applications of photo-induced absorption to photonics and **laser** technologies over a broad spectral range.

IT **3599-32-4 20187-38-6 37069-60-6 37069-61-7**
RL: PRP (Properties)
(transient absorption of sym. carbocyanines)

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)

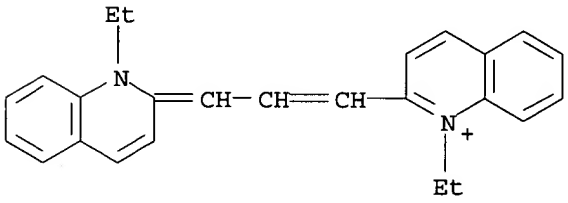


RN 20187-38-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-(9CI) (CA INDEX NAME)

kcal/mol, resp. The results show that the dispersion force plays an important role in the aggregation of DCI and DDI in aqueous solution The absorption bandwidth of the DCI/ethanol system has been measured as a function of temperature, providing evidence for no strong interaction between DCI and solvent mols. The participation of hydrophobic force in driving the aggregation is suggested. For the first time, DCI in aqueous solution is found to form a new aggregate which has both J- and H- bands.

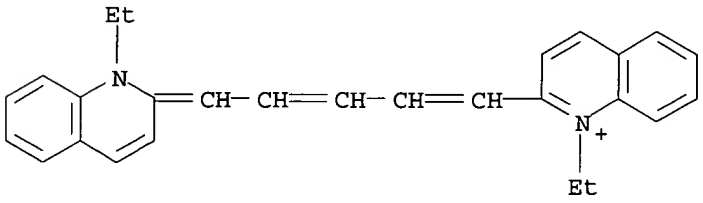
IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine iodide **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(spectroscopic studies on solution aggregation behavior of cyanine dyes)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

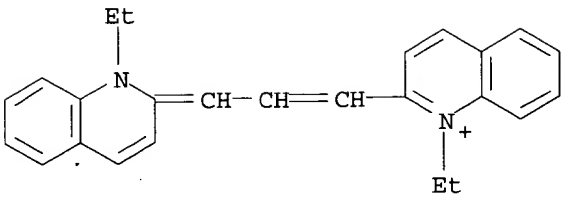
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

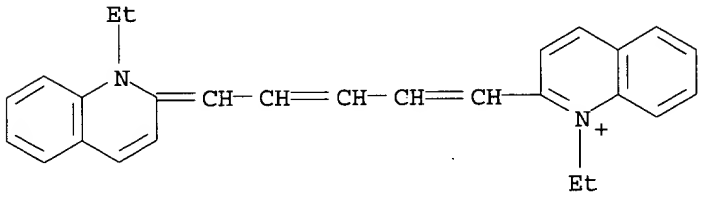
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 29 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:194886 HCAPLUS
DOCUMENT NUMBER: 128:301933
TITLE: Transient absorption of symmetrical carbocyanines
AUTHOR(S): Meyer, Yves H.; Pittman, Moana; Plaza, Pascal
CORPORATE SOURCE: Lab. de Photophys. Mol. , CNRS, Univ. Paris-Sud,



● I⁻

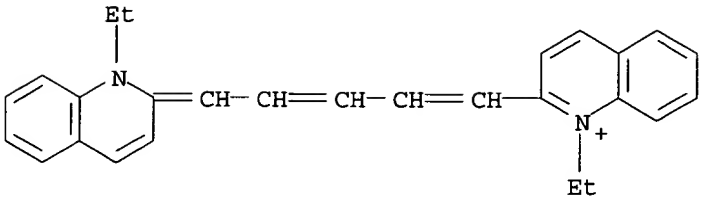
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 28 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:401834 HCAPLUS
DOCUMENT NUMBER: 129:55409
TITLE: The spectroscopic studies on the aggregation behavior of cyanine dyes
AUTHOR(S): Min, Hyungsik; Park, Jeunghee; Yu, Jongwan; Kim, Dongho
CORPORATE SOURCE: Department of Chemistry, Korea University, Chungnam, 339-700, S. Korea
SOURCE: Bulletin of the Korean Chemical Society (1998), 19(6), 650-654
CODEN: BKCSDE; ISSN: 0253-2964
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Aggregations of 1,1'-diethyl-2,2'-carbocyanine iodide (DCI) and 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI) in aqueous solution have been investigated by steady-state absorption spectroscopy. The equilibrium consts. for dimerization of DCI and DDI are found to be (9.8±0.5) + 104 and (1.6 ± 0.5) + 105 M-1, resp., at 293 K. The enthalpy changes for the dimerization of DCI and DDI are -6.7 ± 0.7 and -7.7 ± 0.8



● I^-

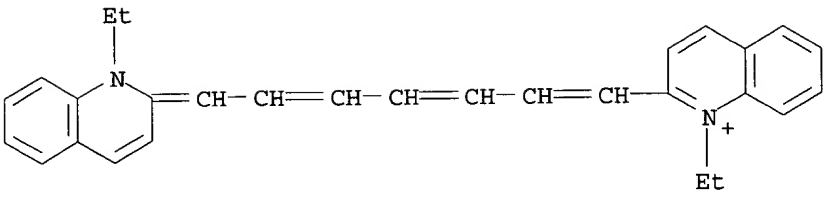
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 27 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:453668 HCAPLUS
DOCUMENT NUMBER: 129:123790
TITLE: Photoisomerization of symmetric carbocyanines
AUTHOR(S): Min, Hyungsik; Kang, Yoo Nam; Park, Jeunghee
CORPORATE SOURCE: Department of Chemistry, Korea University, Chungnam, 339-700, S. Korea
SOURCE: Bulletin of the Korean Chemical Society (1998), 19(7), 747-753
CODEN: BKCSDE; ISSN: 0253-2964
PUBLISHER: Korean Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The phoisomerization process of sym. carbocyanine dyes such as 3,3'-diethyloxadicarbocyanine iodide, 3,3'-diethylthiadicarbocyanine iodide (DTDCI), 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI), 1,1'-diethyl-2,2'-carbocyanine iodide, and cryptocyanine (1,1'-diethyl-4,4'-carbocyanine iodide) (CCI) have been studied by measuring the steady-state and time-resolved fluorescence spectra and the ground-state recovery profiles. The steady-state fluorescence spectrum of a photoisomer as a function of concentration and excitation wavelength provides evidence that the fluorescence of the photoisomer is formed by the radiative energy transfer from the normal form and the quantum yield for the formation of the photoisomer is increased by decreasing the excitation wavelength. The fluorescence decay profiles have been measured by using the time correlated single photon counting technique, showing a strong dependence on the concentration and the detection wavelength, which is due to the formation of excited photoisomers produced either by the radiative energy transfer from the normal form or by absorbing the 590 nm laser pulse. We report the fluorescence decay time of photoisomers for these cyanine dyes. The exptl. results are explained by introducing the semiempirical calcns. The ground state recovery profiles of DTDCI, DDI, and CCI normal forms have been measured, showing that the recovery time from the singlet excited state is similar to the fluorescence decay time.

IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine iodide **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide
RL: PRP (Properties)
(photoisomerization of sym. carbocyanines)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 26 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1998:644178 HCAPLUS
DOCUMENT NUMBER: 129:334674
TITLE: Chemically sensitive films for the detection of hazardous substances employing cyanine and nitroso near **infrared** dyes
AUTHOR(S): Norena-Franco, Luis E.; Kvasnik, Frank
CORPORATE SOURCE: Department of Instrumentation and Analytical Science, UMIST, Manchester, M60 1QD, UK
SOURCE: Analyst (Cambridge, United Kingdom) (1998), 123(10), 2185-2189
CODEN: ANALAO; ISSN: 0003-2654
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The sensing potential of com. available near **IR** (**NIR**)-absorbing dyes for the detection of hazardous industrial substances such as hydrochloric acid, acetic acid and ammonia is reported. The **NIR** absorbing cyanine dyes DDI and **IR**-140 and the nitroso dye CI Acid Green 1, which have not been used in optical chemical sensors before, were entrapped within silicone and fluoropolymer films. These films were exposed to test atmospheres containing approx. 4% m/m concns. of the hazardous vapors and their response was assessed by absorption spectroscopy. The sensing films could be used in the development of distributed optical fiber sensors since the polymer matrixes are suitable for cladding silica optical fibers.

IT **14187-31-6**, DDI
RL: NUU (Other use, unclassified); USES (Uses)
(chemical sensitive films for the detection of hazardous substances employing cyanine and nitroso near **IR** dyes)
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

US 5641878	A	19970624	US 1994-333603	19941102
US 5677199	A	19971014	US 1994-346098	19941129
CA 2223418	AA	19961219	CA 1996-2223418	19960604
CA 2223418	C	20031007		
WO 9641144	A2	19961219	WO 1996-US8935	19960604
WO 9641144	A3	19970206		
W: CA, CN, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CN 1198816	A	19981111	CN 1996-196037	19960604
JP 2001517296	T2	20011002	JP 1997-501385	19960604
US 5919922	A	19990706	US 1997-865812	19970530
US 6060598	A	20000509	US 1997-874820	19970613

PRIORITY APPLN. INFO.:

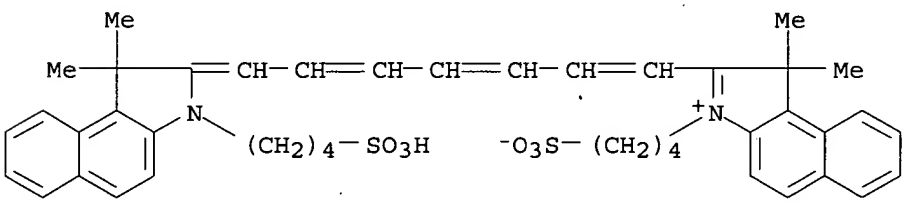
US 1990-524212	B2	19900515
US 1990-524212	B2	19900515
US 1991-701449	A3	19910515
US 1991-701465	B1	19910515
US 1994-333603	A2	19941102
US 1994-346098	A2	19941129
US 1990-523601	B1	19900515
US 1995-476544	A	19950606
WO 1996-US8935	W	19960604

AB Fluorescent dyes which are free of aggregation and serum binding, suitable as marker components for applications such as fluorescence immunoassays, in vivo imaging and in vivo tumor therapy, comprise a polymethine fluorophore moiety bonded to ≥1 polyoxyalkylene or carbohydrate moiety. For example, p-BrC6H4OH is etherified with Me(OCH2CH2)nOTs, the product treated with BuLi and acylated with p-Me2NC6H4COCl, and the resulting benzophenone treated with Ph3PCH2 Br to give 4-Me2NC6H4C(:CH2)C6H4(OCH2CH2)nOMe-4, which can be coupled with HC(OEt)3 or MeOCH:C(OMe)2 to give the penta- or heptamethine compound, resp.

IT **3599-32-4D**, **IR** 125, polyoxyethylene derivs.
17695-32-8D, 1,1'-Diethyl-2,2'-quinotricarbocyanine iodide, polyoxyethylene derivs.
RL: ARG (Analytical reagent use); TEM (Technical or engineered material use); ANST (Analytical study); USES (Uses)
(polyoxyhydrocarbyl-related products for fluorescence assays)

RN 3599-32-4 HCAPLUS

CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



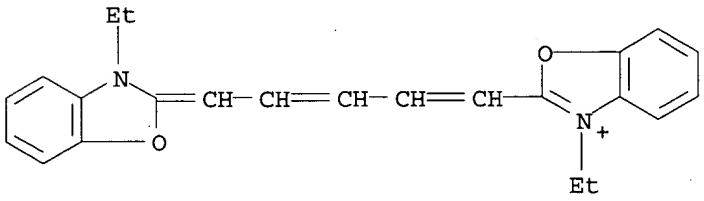
● Na

RN 17695-32-8 HCAPLUS

CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(effect of electron-donating end groups on absorption spectra and thermodn. stability of photo-isomers of sym. di- and tricarbocyanine dyes)

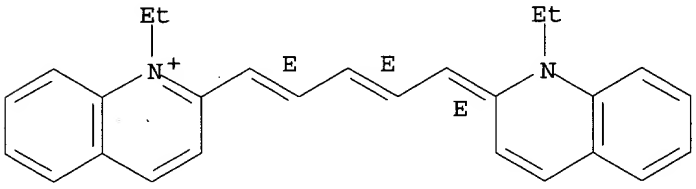
RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 64496-45-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[(1E,3E,5E)-5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L29 ANSWER 25 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:183776 HCAPLUS
DOCUMENT NUMBER: 130:224351
TITLE: Polyoxyhydrocarbyl-related products for fluorescence assays
INVENTOR(S): Dandliker, Walter B.; Devlin, Robert Francis; Arrhenius, Peter Olaf Gustaf; Hsu, Mao-lin
PATENT ASSIGNEE(S): Hyperion, Inc., USA
SOURCE: U.S., 45 pp., Cont.-in-part of U.S. Ser. No. 346,098.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

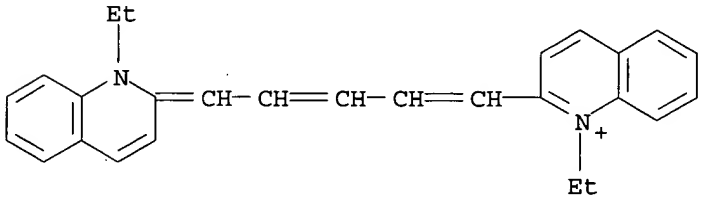
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5880287	A	19990309	US 1995-476544	19950606
US 5403928	A	19950404	US 1991-701449	19910515

squarylium dyes
AUTHOR(S): Tolmachev, A. I.; Il'chenko, A. Ya.; Kurdyukov, V. V.
CORPORATE SOURCE: Inst. Org. Khim., NAN, Kiev, Ukraine
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1999), 65(11-12), 119-122
CODEN: UKZHAU; ISSN: 0041-6045
PUBLISHER: Institut Obshchei i Neorganicheskoi Khimii im. V. I. Vernadskogo NAN Ukrainy
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Absorption spectra of squarylium dyes are interprated by interaction of two chromofores-cyanine and oxonol ones. It has been shown that in consequence of high basicity of oxonol chromofore the hypsochromic shifts of long-wave absorption band as a rule are observed in squarylium dyes.

IT **37069-60-6**
RL: PRP (Properties)
(electronic structure and absorption spectra of squarylium dyes)

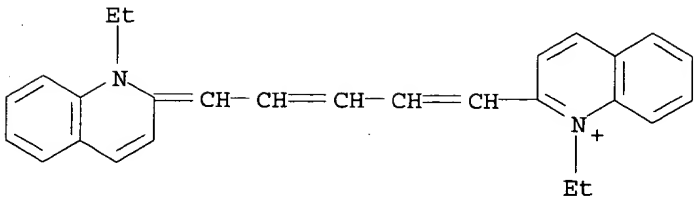
RN 37069-60-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)



L29 ANSWER 24 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:660500 HCAPLUS
DOCUMENT NUMBER: 132:27952
TITLE: Effect of the electron-donating end groups on absorption spectra and thermodynamic stability of photo-isomers of symmetric di- and tricarbocyanine dyes
AUTHOR(S): Razumova, T. K.; Tarnovskii, A. N.
CORPORATE SOURCE: Vseross. Nauchn. Tsentr " Gos. Opt. Inst. im. S. I. Vavilova, St. Petersburg, 199034, Russia
SOURCE: Optika i Spektroskopiya (1999), 86(5), 778-784
CODEN: OPSPAM; ISSN: 0030-4034
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian

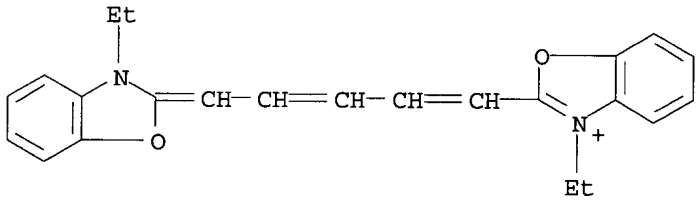
AB The spectral characteristics of some stable all-trans-isomers (which are underivatized in the C backbone) di- and tricarbocyanines and also some unstable mono-cis-isomers which appear upon partial rotation around the central methine chain bond. On the basis of 15 example compds. the authors exptl. studied the effect of the electron donor capacity of the terminal functional group on the long-wave absorption spectral band maximum position and on the magnitude of the free energy of the ground and first excited singles state upon isomerization. The characteristics of these changes depends on the class of the dye, which dets. the geometric symmetry of the carbocyanine groups relative to the central carbon atom in the polymethine chain.

IT **14806-50-9**, DODCI **64496-45-3**



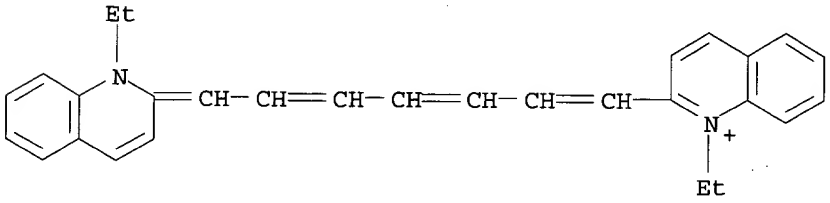
● I^-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



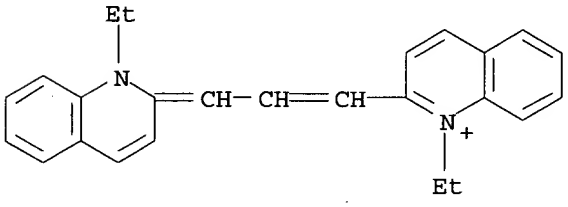
● I^-

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 23 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:219521 HCAPLUS
DOCUMENT NUMBER: 133:18766
TITLE: Electronic structure and absorption spectra of

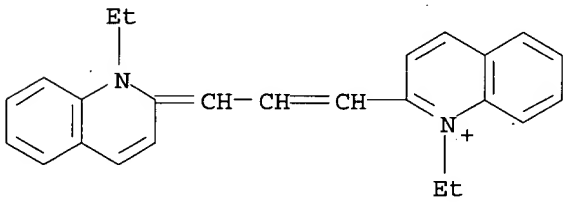
3,3'-Diethyloxadicarbocyanine iodide **17695-32-8**,
1,1'-Diethyl-2,2'-quinotricarbocyanine iodide
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(structural and environmental requirements for quenching of singlet oxygen by cyanine dyes)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

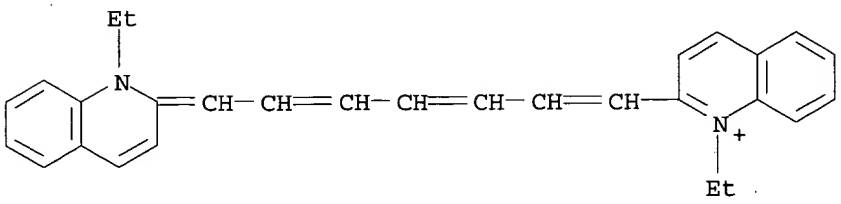
RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

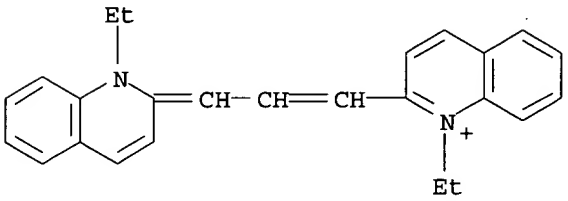
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 22 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:278960 HCAPLUS
DOCUMENT NUMBER: 133:51043
TITLE: Structural and environmental requirements for quenching of singlet oxygen by cyanine dyes
AUTHOR(S): Kanofsky, Jeffrey R.; Sima, Paul D.
CORPORATE SOURCE: Medical Services, Edward Hines, Jr. Department of Veterans Affairs Hospital, Hines, IL, 60141, USA
SOURCE: Photochemistry and Photobiology (2000), 71(4), 361-368
CODEN: PHCBAP; ISSN: 0031-8655
PUBLISHER: American Society for Photobiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Singlet-oxygen quenching consts. were measured for 19 cyanine dyes in acetonitrile. The most efficient quenchers were 1-butyl-2-[2-[3-[(1-butyl-6-chlorobenz-[cd]indol-2(1H)-ylidene)ethylidene]-2-chloro-1-cyclohexen-1-yl]ethenyl]-6-chlorobenz[cd]indolium and 6-chloro-2-[2-[3-(6-chloro-1-ethylbenz[cd]indol-2(1H)-ylidene)ethylidene]-2-phenyl-1-cyclopenten-1-ylethenyl]-1-ethylbenz[cd]indolium, having quenching consts. with diffusion-controlled values of 2.0 ± 0.1 + 1010 and 1.5 ± 0.1 + 1010 M-1-s-1, resp. There was a trend toward increased quenching consts. for cyanine dyes with the absorption band maxima at longer wavelengths. However, the quenching consts. correlated better with the oxidation potentials of the cyanine dyes, suggesting that quenching proceeds by charge transfer rather than energy transfer. The quenching consts. for 1,1',3,3,3',3'-hexamethylindotricarbocyanine perchlorate and 1,1'-diethyl-4,4'-carbocyanine iodide were measured in several solvents as well as in aqueous solns. of detergent micelles. In different solvents, the quenching consts. varied by as much as a factor of 50. The quenching consts. were largest in solvents with the highest values on the π* scale of Kamlet, Abboud, Abraham and Taft. This was consistent with quenching occurring by charge transfer. Within cells, cyanine dyes concentrate in membrane-bound organelles. The quenching consts. were substantial within detergent micelles. To the extent that micelles are models for biol. membranes, cyanine dyes may be effective biol. singlet-oxygen quenchers.

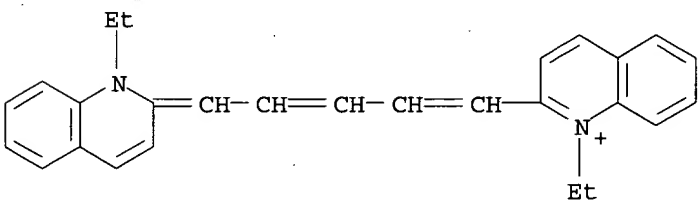
IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine iodide **2768-90-3**, 1,1'-Diethyl-2,2'-carbocyanine chloride **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide **14806-50-9**,

RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



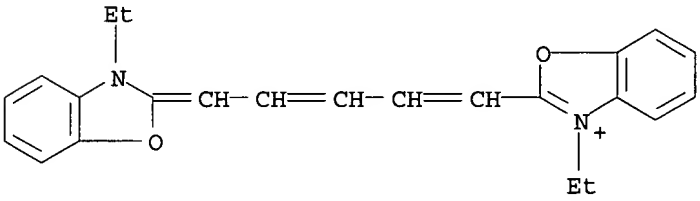
● Cl^-

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



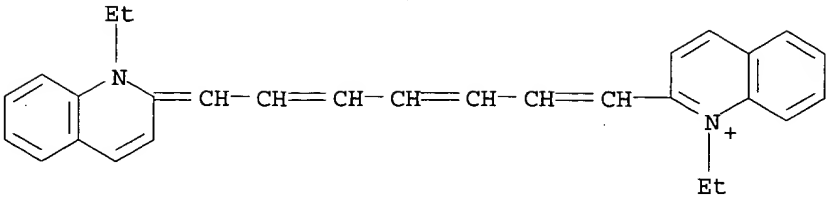
● I^-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-



● I^-

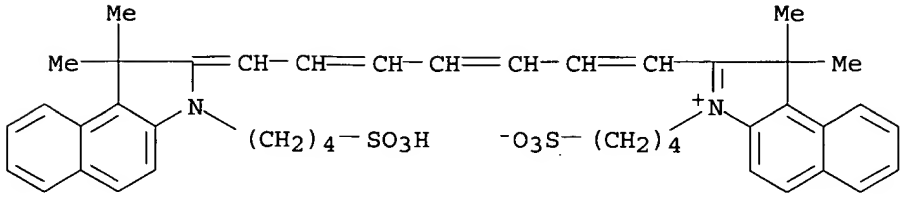
REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 21 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:278966 HCAPLUS
DOCUMENT NUMBER: 133:70811
TITLE: Cyanine dyes as protectors of K562 cells from photosensitized cell damage
AUTHOR(S): Sima, Paul D.; Kanofsky, Jeffrey R.
CORPORATE SOURCE: Research Service, Edward Hines, Jr., Department of Veterans Affairs Hospital, Hines, IL, 60141, USA
SOURCE: Photochemistry and Photobiology (2000), 71(4), 413-421
CODEN: PHCBAP; ISSN: 0031-8655
PUBLISHER: American Society for Photobiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Several cyanine dyes were found to protect K562 leukemia cells against toxicity mediated by cis-di(4-sulfonatophenyl)diphenylporphine (TPPS2) and light. Most cyanine dyes derived from dimethylindole were better photoprotectors than cyanine dyes with other structures. This correlated with the fact that cyanine dyes derived from dimethylindole were predominately monomeric at millimolar concns. within K562 cells, while other cyanine dyes formed aggregates. For cyanine dyes that are derived from dimethylindole and have absorption band wavelengths greater than 700 nm, fluorescence-energy transfer from TPPS2 to the cyanine dye was the most important mechanism for photoprotection. There was no spectroscopic evidence for complex formation between the cyanine dyes and TPPS2. The dimethylindole derivative, 1,1',3,3,3',3'-hexamethylindodicarbocyanine, was an excellent photoprotector, but a poor quencher of TPPS2 fluorescence and a relatively poor singlet-oxygen quencher. This cyanine dye may act by quenching excited triplet TPPS2. Singlet-oxygen quenching may contribute to the photoprotection provided by cyanine dyes not derived from dimethylindole. Differences in the subcellular distribution of the various cyanine dyes studied may have contributed to the different apparent mechanisms of photoprotection.

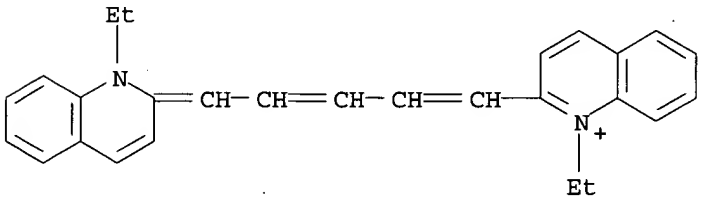
IT **2768-90-3**, 1,1'-Diethyl-2,2'-carbocyanine chloride
14187-31-6, 1,1'-Diethyl-2,2'-dicarbocyanine iodide
14806-50-9, 3,3'-Diethyloxadicarbocyanine iodide
17695-32-8, 1,1'-Diethyl-2,2'-quinotricarbocyanine iodide
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(cyanine dyes as protectors of K562 cells from photosensitized cell damage)

, inner salt, sodium salt (9CI) (CA INDEX NAME)



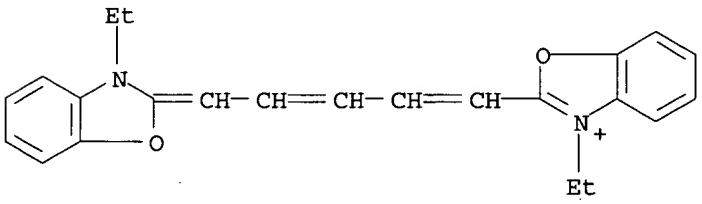
● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

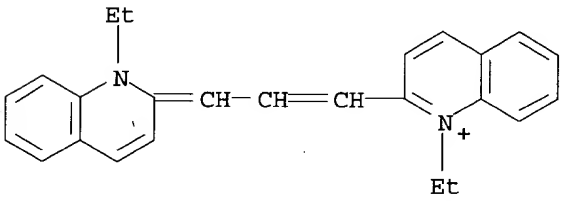
RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)

Fytofarmacologie, Faculteit Farmaceutische Wetenschappen, Louvain, B-3000, Belg.
SOURCE: Journal of Photochemistry and Photobiology, B: Biology (2000), 55(1), 27-36
CODEN: JPPBEG; ISSN: 1011-1344
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The present work has been carried out to explore the potential application of cyanines in photodynamic therapy. After photosensitization, the in vitro cytotoxic and antiproliferative activity on HeLa cells of a total of 35 cyanines belonging to several chemical subgroups is explored. Most of these cyanines have never been used before in similar exptl. work. From a first set of expts., it is found that none of the krypto-, oxa- and imidacyanines is photobiol. active on HeLa cells. Conversely, five thiacyanines (Thiac1-5), one rhodacyanine (Rhodac) and four indocyanines (Indoc2, Indoc4, Indoc5, Indoc7) show photodependent cytotoxicity or antiproliferative effects. A more detailed study shows that out of the ten selected compds., eight cyanines feature significant photodependent cytotoxic and antiproliferative effects. All possess maximum absorption ranges between 545 and 824 nm. In particular, Rhodac, a tetramethinemeromonomethine rhodacyanine dye with an absorption maximum of 655 nm (ethanol) and a molar absorption coefficient ε=108 000 shows very promising photo-dependent biol. activity. In general, the measured singlet oxygen quantum yield of the selected cyanines is low (<0.08) and does not correlate with the degree of photosensitization. Furthermore, the present study shows that cyanines with a partition coefficient close to 1.5 accumulate to the highest extent in HeLa cells, while the more hydrophobic compds. (e.g., indocyanines) concentrate less intracellularly.

IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine iodide **3599-32-4**, Indocyanine green **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide **14806-50-9**, 3,3'-Diethyloxadicarbocyanine iodide **17695-32-8**, 1,1'-Diethyl-2,2'-quinotricarbocyanine iodide
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(cyanine dyes photosensitizing characteristics: comparative study)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

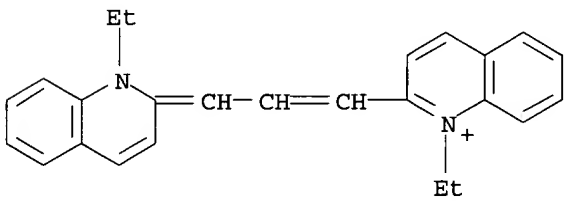
RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-

AUTHOR(S): Bhattacharyya, Ashoke Kumar; Saha, Amitabha
CORPORATE SOURCE: Department of Chemistry, Maharaja Bir Bikram College, Agartala, 799 004, India
SOURCE: Research Journal of Chemistry and Environment (2000), 4(2), 27-32
CODEN: RJCEF7; ISSN: 0972-0626
PUBLISHER: Research Journal of Chemistry and Environment
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Pinacyanol chloride (PCYN) is a cationic cyanine dye. PCYN cations on aggregation exhibit blue-shifted metachromatism in contrast to pseudoisocyanine chloride (PIC), whose cations give a red-shifted J-band. PCYN is an strong aggregating dye showing a prominent β-band at around 545 nm along with its α-band at around 600 nm and exhibits multiple banded metachromatism in the presence of K4Fe(CN)6, K3Fe(CN)6, and NH4VO3 with a μ-band appearing at around 460 nm. Stabilities of metachromatic compds. of different systems, evaluated on the basis of the disruptive role of ethanol are found to be in order: PCYN-K4Fe(CN)6 < PCYN-K3Fe(CN)6 < PCYN-NH4VO3. PCYN binds with K4Fe(CN)6, K3Fe(CN)6, and NH4VO3 in the molar ratios of .apprx. 4:1, 3:1, and 1:1 resp. A mechanistic model has been suggested to account for the induction of metachromatism in suitable cationic dyes by monoanionic substrates like vanadate and thermodn. parameters for the dye-salt interactions at different temps. have also been evaluated. The PIC spectrum remains almost unperturbed in the presence of K4Fe(CN)6, K3Fe(CN)6, and NH4VO3.

IT **2768-90-3**, Pinacyanol chloride
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; metachromatism induced in cationic cyanine dyes by small mols.)

RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

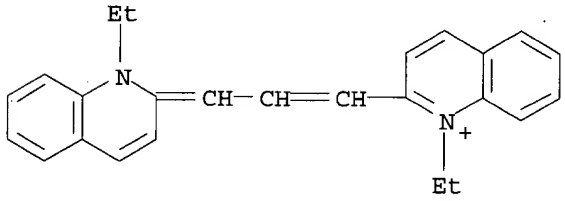
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 20 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:414471 HCAPLUS
DOCUMENT NUMBER: 133:161345
TITLE: A comparative study of the photosensitizing characteristics of some cyanine dyes
AUTHOR(S): Delaey, E.; Van Laar, F.; De Vos, D.; Kamuhabwa, A.; Jacobs, P.; De Witte, P.
CORPORATE SOURCE: Laboratorium voor Farmaceutische Biologie en

carbon-carbon bond of the polymethine chain. It was found that the isomerization potential surface depends on the polymethine chain length and its position on the quinoline moiety. The results of this study also indicate that steric hindrance associated with the rotation around a carbon-carbon bond plays an important role in the isomerization dynamics of cyanines, which correlates with the photoisomer lifetime that was measured from picosecond time-resolved fluorescence spectra.

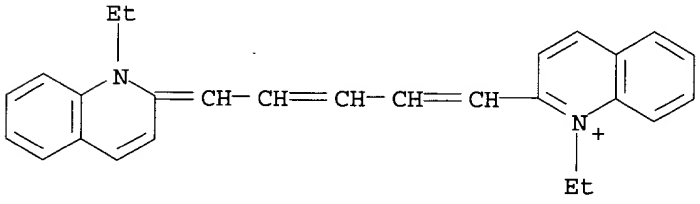
IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine iodide **14187-31-6**
, DDI
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; AM1 semiempirical calculated potential energy surfaces for isomerization of sym. carbocyanines)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

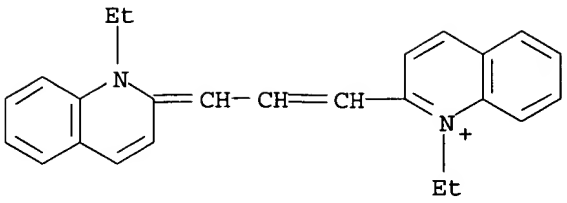
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



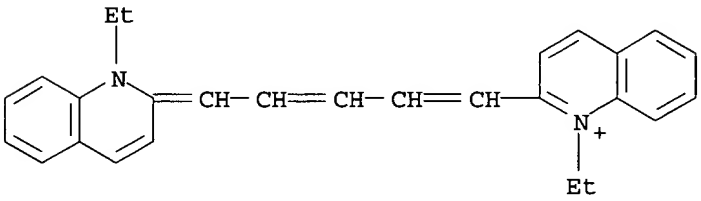
● I⁻

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

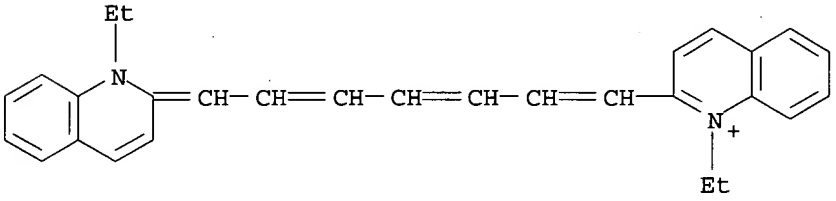
L29 ANSWER 19 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:640525 HCAPLUS
DOCUMENT NUMBER: 134:179910
TITLE: Metachromasia induced in cyanine dyes by small molecules



RN 37069-60-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]- (9CI) (CA INDEX NAME)



RN 37069-61-7 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

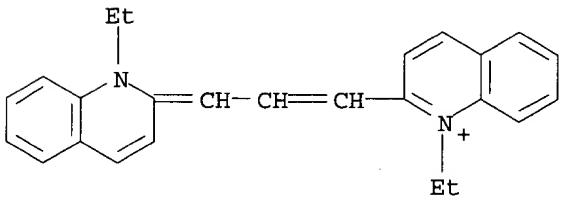
L29 ANSWER 18 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:729223 HCAPLUS
DOCUMENT NUMBER: 134:5903
TITLE: AM1 semiempirical calculated potential energy surfaces for the isomerization of symmetrical carbocyanines
AUTHOR(S): Park, Jeunghee
CORPORATE SOURCE: Department of Chemistry, Korea University, Chungnam, 339-700, S. Korea
SOURCE: Dyes and Pigments (2000), 46(3), 155-161
CODEN: DYPIDX; ISSN: 0143-7208
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Semiempirical ground state (S0) and first excited singlet state (S1) potential surfaces were calculated for the isomerization of sym. carbocyanines such as 3,3'-diethylthiadicarbocyanine iodide (DTDCI), 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI), 1,1'-diethyl-2,2'-carbocyanine iodide (DCI), and cryptocyanine (1,1'-diethyl-4,4'-carbocyanine) iodide (CCI), as a function of the twist angle around a

the spectrum of the dye in the micelle. This spectrum was consistent with that of the monomer in a medium with a lower dielec. constant

IT **605-91-4**, Pinacyanol
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; interaction of pinacyanol with dodecyltrimethylammonium bromide micelles)

RN 605-91-4 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 17 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:446657 HCAPLUS

DOCUMENT NUMBER: 135:196839

TITLE: Uni-directional orientation of cyanine dye aggregates on a K4Nb6O17 single crystal: toward novel supramolecular assemblies with three-dimensional anisotropy

AUTHOR(S): Miyamoto, Nobuyoshi; Kuroda, Kazuyuki; Ogawa, Makoto

CORPORATE SOURCE: Department of Applied Chemistry, Waseda University, Shinjuku-ku Tokyo, 169-8555, Japan

SOURCE: Journal of the American Chemical Society (2001), 123(28), 6949-6950
CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Cyanine dyes were adsorbed on on the anisotropic surfaces of single crystals of K4Nb6O17 and the orientations of the dyes were revealed by polarized spectra.

IT **20187-38-6 37069-60-6 37069-61-7**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; unidirectional orientation of cyanine dye aggregates on potassium niobium oxide)

RN 20187-38-6 HCAPLUS

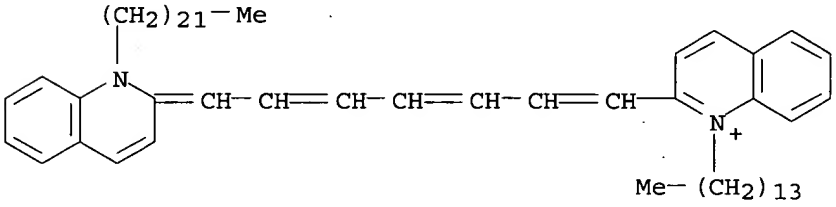
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

isolated from cells, and are well retained therein. Methods of using the dyes to detect stained cells both in vivo and in vitro are also disclosed.

IT **359842-03-8P**
RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(fluorescent membrane intercalating probes and methods for use)

RN 359842-03-8 HCAPLUS

CN Quinolinium, 2-[7-(1-docosyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-1-tetradecyl-, iodide (9CI) (CA INDEX NAME)

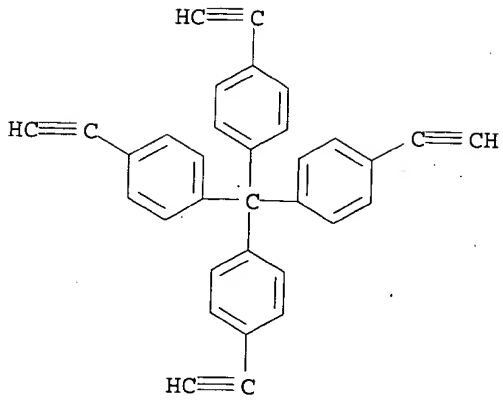


● I⁻

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 16 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:672583 HCAPLUS
DOCUMENT NUMBER: 135:359142
TITLE: A spectroscopy study of the interaction of pinacyanol with n-dodecyltrimethylammonium bromide micelles
AUTHOR(S): Sabate, Raimon; Gallardo, Montserrat; de la Maza, Alfonso; Estelrich, Joan
CORPORATE SOURCE: Departament de Fisicoquimica Facultat de Farmacia, Universitat de Barcelona, Barcelona, E-08028, Spain
SOURCE: Langmuir (2001), 17(21), 6433-6437
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The interaction of pinacyanol (PIN), a cyanine dye, with dodecyltrimethylammonium bromide (DTAB) in the aqueous micellar concentration range was studied by visible spectrophotometry. As PIN is present in aggregate and nonaggregate forms, we aimed to determine the dimerization constant (KD = 35,000 M-1) by nonlinear regression fitting of the exptl. spectra and then by the resolution of such spectra in terms of pure monomer and dimer states. Each state was deconvoluted into three Gaussian bands. These functions fit the spectral data. Interaction of PIN with micellar DTAB produced a bathochromic shift of all the spectral bands and increased the most red-shifted band. Spectral data showed that the dye is bound into the micelle in the monomeric form. On the other hand, micellization reduced the dimerization process. The binding of the dye to micelles is defined by an association constant (KA = 2160 M-1). In such binding, 1 is the maximum number of PIN mols. that each micelle can accommodate. The association constant allowed us to calculate the fraction of micellized PIN, from which we deduced



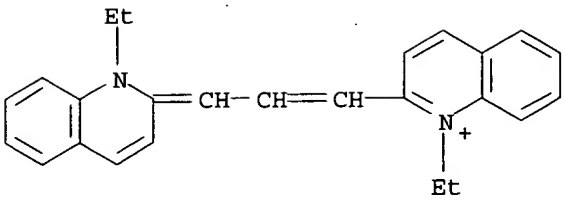
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 15 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:676637 HCAPLUS
DOCUMENT NUMBER: 135:238960
TITLE: Fluorescent membrane intercalating probes and methods for their use
INVENTOR(S): Gray, Brian D.
PATENT ASSIGNEE(S): Phanos Technologies, Inc., USA
SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001066153	A1	20010913	WO 2001-US6923	20010305
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2402352	AA	20010913	CA 2001-2402352	20010305
EP 1265640	A1	20021218	EP 2001-918334	20010305
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003525915	T2	20030902	JP 2001-564805	20010305
US 2003223935	A1	20031204	US 2002-220241	20021101
PRIORITY APPLN. INFO.:			US 2000-186682P	P 20000303
			WO 2001-US6923	W 20010305

OTHER SOURCE(S): MARPAT 135:238960

AB The invention relates to a family of cyanine dyes which fluoresce in the far red and near **infra** red wavelengths of the spectrum and preferably possess lipophilic side chains. The dyes of the invention are soluble in com. available membrane staining vehicles, are useful as probes for rapidly staining lipophilic structures such as membranes in cells or



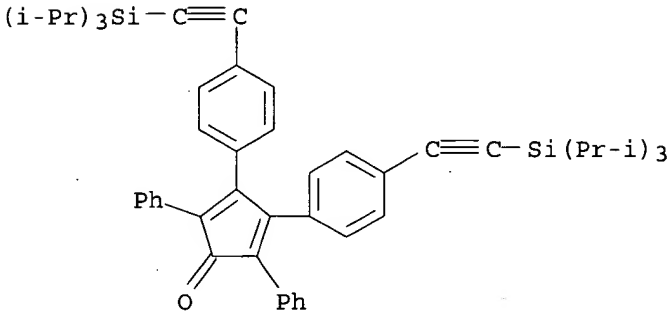
● I^-

CM 2

CRN 383155-27-9
CMF (C51 H60 O Si2 . C33 H20)x
CCI PMS

CM 3

CRN 189619-39-4
CMF C51 H60 O Si2



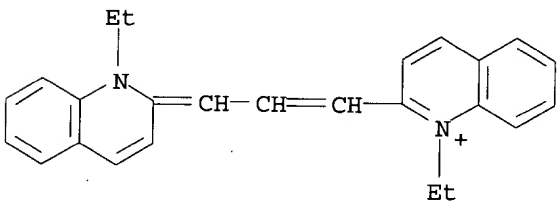
CM 4

CRN 177991-01-4
CMF C33 H20

Cotlet, Mircea; van der Auweraer, Marc; Mullen, Klaus; de Schryver, Frans C.
CORPORATE SOURCE: Department of Chemistry, Katholieke Universiteit Leuven, Louvain, 3001, Belg.
SOURCE: Chemistry--A European Journal (2001), 7(19), 4126-4133
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We report on a single-mol. study of a host - guest system that consists of a second-generation polyphenylene dendrimer and the cyanine dye pinacyanol. The use of single-mol. spectroscopy enables us to obtain more detailed information on the properties of the host-guest system and can be used to confirm solution data. At low dye to dendrimer ratios the system is present as a one-to-one complex, while for higher ratios an ion-pair system is formed. Changes in the spectral properties of the single mols. are explained by differences in local polarizability. The difference of the triplet lifetimes of single free dye mols. and of associated ones is interpreted as deriving from a larger free volume for the dye mols. in the dendritic host relative to the rigid polymer matrix.

IT **605-91-4**, Pinacyanol
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; effect of dendrimer complexation on triplet lifetimes of single mols. of)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



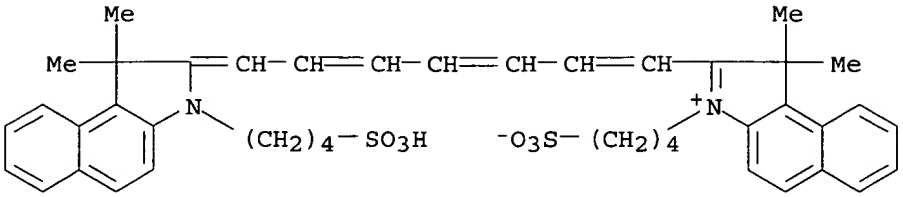
● I⁻

IT **383155-28-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(single-mol. spectroscopy of dendrimer-based host-guest system)

RN 383155-28-0 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide, compd. with 2,5-diphenyl-3,4-bis[4-[[tris(1-methylethyl)silyl]ethynyl]phenyl]-2,4-cyclopentadien-1-one polymer with 1,1',1'',1'''-methanetetrayltetrakis[4-ethynylbenzene] (9CI) (CA INDEX NAME)

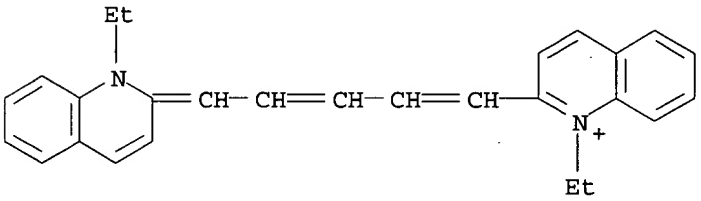
CM 1

CRN 605-91-4
CMF C25 H25 N2 . I



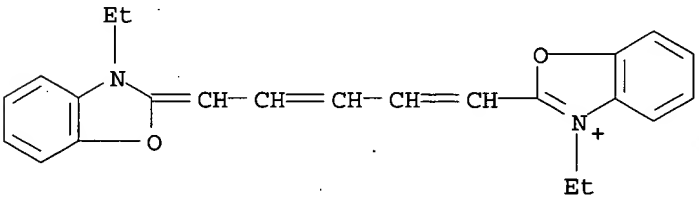
● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

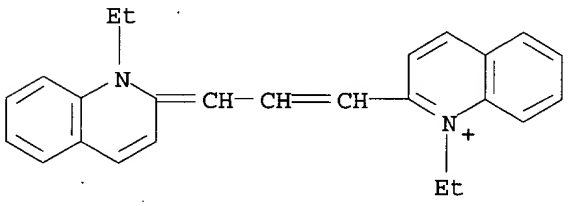
L29 ANSWER 14 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:757479 HCAPLUS
DOCUMENT NUMBER: 136:55218
TITLE: Single-molecule spectroscopy of a dendrimer-based host - guest system
AUTHOR(S): Kohn, Fabian; Hofkens, Johan; Wiesler, Uwe-Martin;

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 13 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:793870 HCAPLUS
DOCUMENT NUMBER: 135:366150
TITLE: Method for dyeing or labeling analytical samples with quantum dots or dendrimers containing fluorescent groups
INVENTOR(S): Iketaki, Yoshinori; Fujii, Masaaki; Omatsu, Takashige; Suzuki, Tomoo; Minakata, Makoto; Yamamoto, Kimitoshi; Nakaya, Kazuhiko
PATENT ASSIGNEE(S): Olympus Optical Co., Ltd., Japan; Nippon Roper K. K.; Foundation for Scientific Technology Promotion
SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

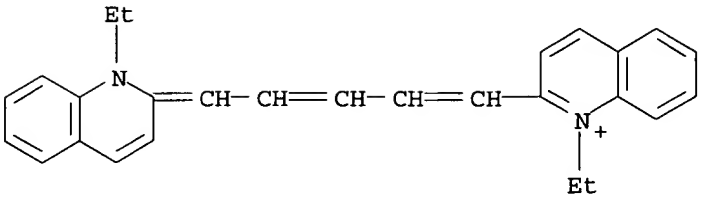
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001305030	A2	20011031	JP 2000-118633	20000419
PRIORITY APPLN. INFO.:			JP 2000-118633	20000419

AB The method gives samples which can be detected by double-resonance absorption microscope at an ultrahigh resolution
IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine Iodide **3599-32-4**, **IR** 125 **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine Iodide **14806-50-9**, 3,3'-Diethyloxadicarbocyanine Iodide
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (labeling agent; method for dyeing or labeling anal. samples with quantum dots or dendrimers containing fluorescent groups)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



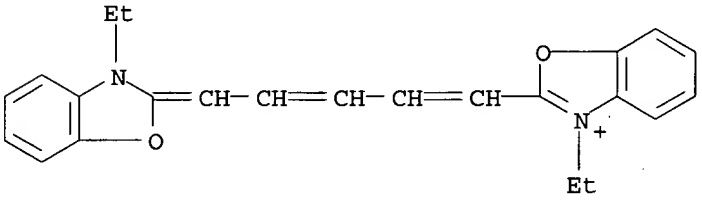
● I⁻

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



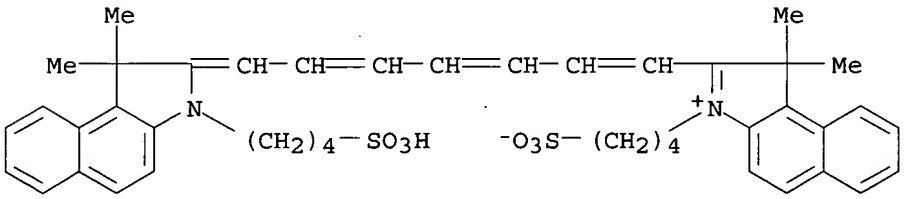
● I^-

IT **14806-50-9**, 3,3'-Diethyloxadicarbocyanine iodide
RL: NUU (Other use, unclassified); USES (Uses)
(DODCI, fluorescent dye; fluorescent tag for detection of residual photoresist during resist processing)
RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

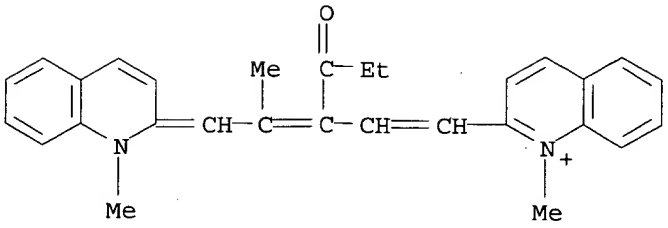


● I^-

IT **3599-32-4**
RL: NUU (Other use, unclassified); USES (Uses)
(**IR** 125, fluorescent dye; fluorescent tag for detection of residual photoresist during resist processing)
RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na



● I^-

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 12 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:6389 HCAPLUS
DOCUMENT NUMBER: 136:93482
TITLE: Modification of resist and/or resist processing with fluorescence detection
INVENTOR(S): Somerville, Linda K.; Holscher, Richard D.; Somerville, Kenneth H.
PATENT ASSIGNEE(S): Micron Technology, Inc., USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

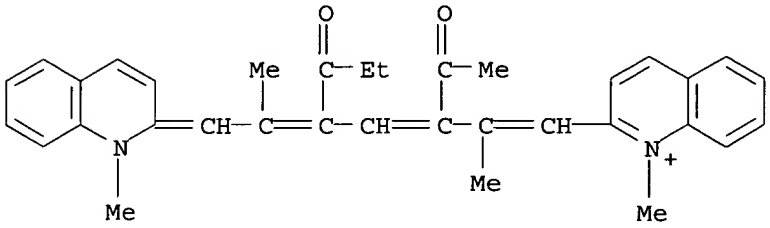
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6335531	B1	20020101	US 1999-291652	19990406
PRIORITY APPLN. INFO.:			US 1999-291652	19990406

AB The invention relates to integrated circuit fabrication and to the detection of residual photoresist through fluorescence. The detection of photoresist is improved by the addition of materials to enhance the fluorescence of photoresist such that residual photoresist that either does not fluoresce or fluoresces at an emission wavelength shorter than that can be detected using existing automatic resist inspection tools. In one embodiment of the invention, a benign tag that does not interfere with the photochem. of the photoresist is added to the photoresist before it is processed. In a 2nd embodiment of the invention, a tag is introduced onto a surface on which residual photoresist may be present such that the tag is absorbed or adsorbed by the residual photoresist, thus rendering the residual photoresist easily detectable. The tag may be introduced into the surface in a solution

IT **14187-31-6**
RL: NUU (Other use, unclassified); USES (Uses)
(DDI, fluorescent dye; fluorescent tag for detection of residual photoresist during resist processing)

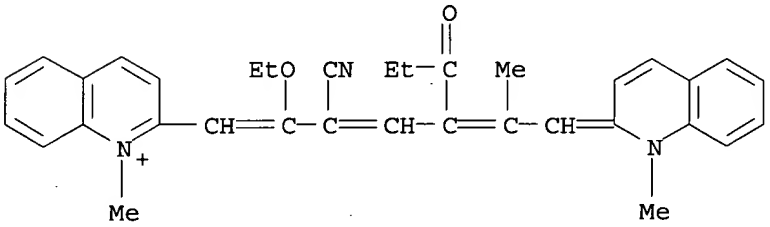
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

RN 417708-45-3 HCAPLUS
CN Quinolinium, 2-[3-acetyl-2-methyl-5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-6-oxo-1,3-octadienyl]-1-methyl-, iodide (9CI) (CA INDEX NAME)



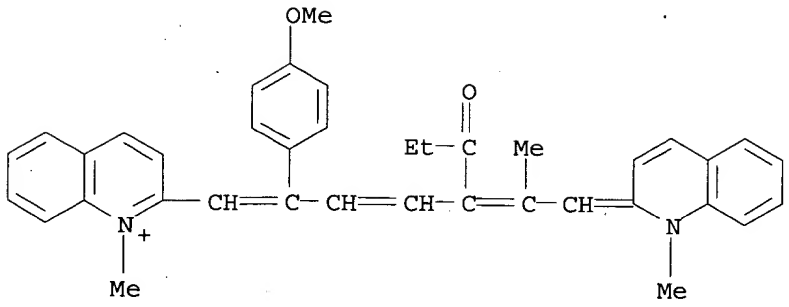
● I^-

RN 417708-46-4 HCAPLUS
CN Quinolinium, 2-[3-cyano-2-ethoxy-5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-6-oxo-1,3-octadienyl]-1-methyl-, iodide (9CI) (CA INDEX NAME)



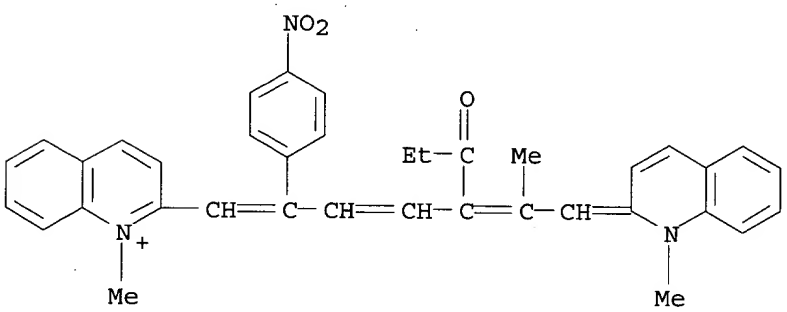
● I^-

IT **417708-49-7P**
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pentamethine cyanine dye; preparation and absorption spectra of polymethine cyanine dyes)
RN 417708-49-7 HCAPLUS
CN Quinolinium, 1-methyl-2-[3-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-4-oxo-1-hexenyl]-, iodide (9CI) (CA INDEX NAME)



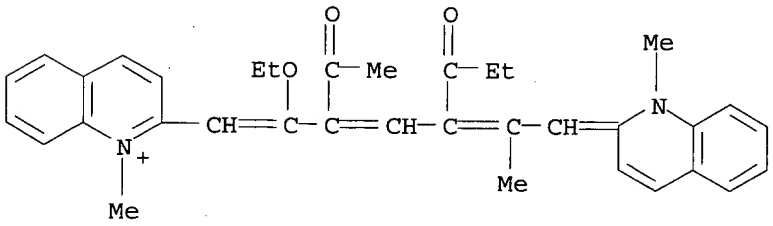
● I^-

RN 417708-43-1 HCAPLUS
CN Quinolinium, 1-methyl-2-[5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-2-(4-nitrophenyl)-6-oxo-1,3-octadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 417708-44-2 HCAPLUS
CN Quinolinium, 2-[3-acetyl-2-ethoxy-5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-6-oxo-1,3-octadienyl]-1-methyl-, iodide (9CI) (CA INDEX NAME)



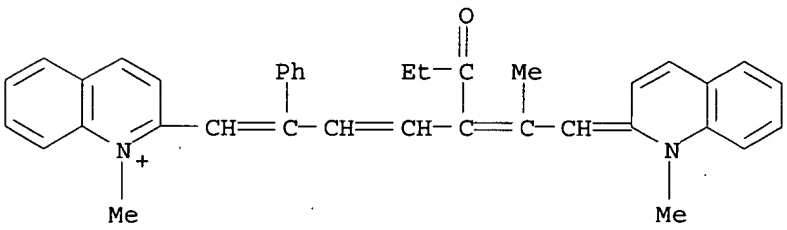
● I^-

AB The reaction of a ratio of 1 mol of Et 2-chloro-1-formylcrotonate (I) with 2 mol of an appropriate 2(4)-heterocyclic quaternary salts afforded pentamethine cyanine dyes. Condensation reaction of I with aromatic amines followed by reaction with 2(4)-heterocyclic quaternary salts resulted in aza-tetramethine cyanine dyes. Condensation of I with active methylene compds. and acetophenone derivs., followed by reaction with 2 mol 2-methylquinoline methiodide afforded the corresponding heptamethine cyanine dyes. The structures of the novel compds. were established by elemental anal., visible/near-**IR** absorption, **IR**, 1H NMR spectroscopy, and mass spectra. Absorption of electromagnetic radiation of some of the polymethine dyes was studied. The relationship between the constitution and properties of these dyes has been studied.

IT **417708-41-9P 417708-42-0P 417708-43-1P**
417708-44-2P 417708-45-3P 417708-46-4P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(heptamethine cyanine dye; preparation and absorption spectra of polymethine cyanine dyes)

RN 417708-41-9 HCAPLUS

CN Quinolinium, 1-methyl-2-[5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-6-oxo-2-phenyl-1,3-octadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 417708-42-0 HCAPLUS

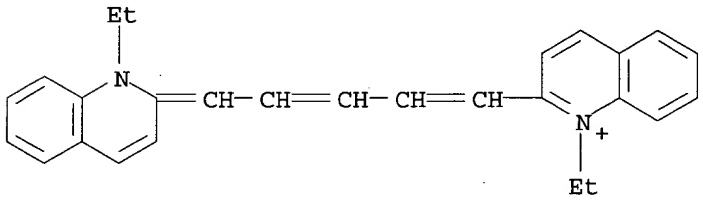
CN Quinolinium, 2-[2-(4-methoxyphenyl)-5-[1-methyl-2-(1-methyl-2(1H)-quinolinylidene)ethylidene]-6-oxo-1,3-octadienyl]-1-methyl-, iodide (9CI) (CA INDEX NAME)

CORPORATE SOURCE: Polish Academy of Sciences, Institute of Low Temperature and Structure Research, Warsaw, 50-950, Pol.
SOURCE: Journal of Molecular Structure (2002), 610(1-3), 187-190
CODEN: JMOSB4; ISSN: 0022-2860
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Absorption spectra of 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI) have been obtained in 1:9 volume ethanol/water mixts. An increase of ionic strength obtained by addition of NaCl to the solvent mixture leads to the appearance of a new absorption band at 849 nm. The intensity of this band increases with salt concentration which suggests that this spectral feature is related to a DDI aggregate. However, no emission has been observed with excitation at 850 nm, indicating that this feature does not correspond to a J-type aggregate. Addition of NaCl to DDI solns. possessing the EtOH/H2O ratio different from 1:9 does not induce appearance of the new absorption band.

IT **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; aggregation and spectra in aqueous ethanol solns. with high ionic strength)

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

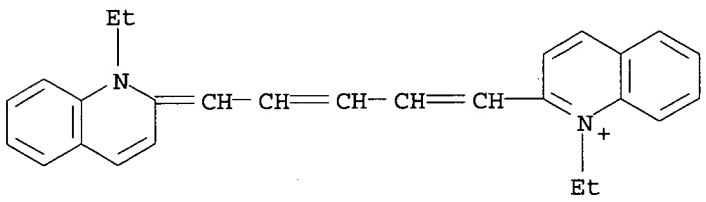
L29 ANSWER 11 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:20964 HCAPLUS
DOCUMENT NUMBER: 136:342123
TITLE: Synthesis and absorption spectra of new polymethine cyanine dyes
AUTHOR(S): Abd El-Aal, Reda Mahmoud
CORPORATE SOURCE: Chemistry Department, Aswan Faculty of Science, South Valley University, Aswan, 81528, Egypt
SOURCE: Dyes and Pigments (2002), 52(2), 129-136
CODEN: DYPIDX; ISSN: 0143-7208
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

R.; O'Neal, Ryan
CORPORATE SOURCE: Department of Chemistry, North Carolina State University, Raleigh, NC, 27695, USA
SOURCE: Journal of Physical Chemistry A (2002), 106(28), 6533-6540
CODEN: JPCAFH; ISSN: 1089-5639
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Despite the well known relationship between the resonance Raman excitation profile and the absorption line shape, there is scant exptl. evidence for effects in absorption or fluorescence spectroscopy related to the observations of surface-enhanced Raman scattering (SERS). On the other hand, numerous Raman studies have been done on the SERS phenomenon, where large enhancement factors have been determined In this work, the absorption properties of mols. adsorbed on single gold and silver nanoparticles (monomers) have been investigated, with particular emphasis on an examination of the effect on the spectrum of the adsorbate. A number of the adsorbates studied are similar to those reported in SERS studies. The adsorbates can be divided into two classes according to the nature of the interaction with the adsorbent. Class I shows little change in the absorption spectrum. Class II shows a large reduction in absorption. The only examples of an increase in absorption arise from solvatochromic effects. The implication of these observations for the mechanism of SERS is discussed.

IT **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine iodide
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; optical properties of dye mols. adsorbed on single gold and silver nanoparticles)

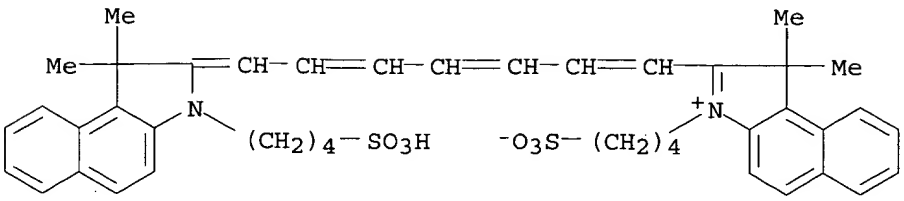
RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

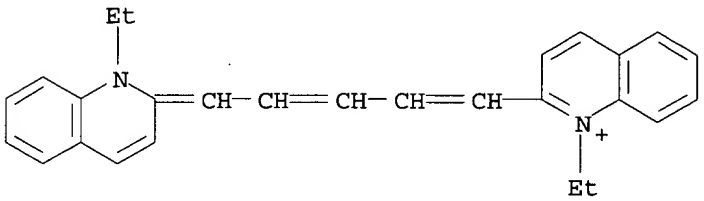
REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 10 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:299997 HCAPLUS
DOCUMENT NUMBER: 137:141840
TITLE: Spectroscopic behavior of 1,1'-diethyl-2,2'-dicarbocyanine iodide in ethanol/water solutions with high ionic strength
AUTHOR(S): Maruszewski, Krzysztof; Jasiorski, Marek; Strek, Wieslaw



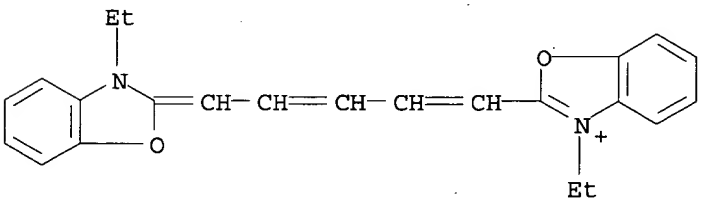
● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

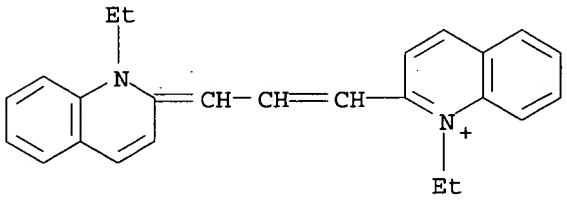
L29 ANSWER 9 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:469858 HCAPLUS
DOCUMENT NUMBER: 137:141842
TITLE: Optical properties of dye molecules adsorbed on single gold and silver nanoparticles
AUTHOR(S): Franzen, Stefan; Folmer, Jacob C. W.; Glomm, Wilhelm

US 2002135758 A1 20020926 US 2001-765757 20010122
US 6538725 B2 20030325
PRIORITY APPLN. INFO.: US 2001-765757 A 20010122

AB Methods for quantifying inherent structural defects of a coating composition on a given substrate are discussed which entail providing ≥1 coating sample in which ≥1 colorimetric or luminescent material is incorporated; irradiating the coating sample with light of a preselected wavelength, before, during and/or after subjecting the sample to ≥1 structural defect-inducing test; collecting spectral data emitted from the sample; and applying a predetd. test to the spectral data to determine whether the sample meets preselected criteria. Methods for quantifying interdiffusion of a coating into a given substrate are also described in which the step of collecting spectral data emitted from the sample is followed by comparing a steady state spectral data baseline achieved after removal of the coating to spectral data acquired by irradiation of an uncoated substrate. A method for quantifying interdiffusion of a substrate into a coating is also discussed.

IT **605-91-4**, 1,1'-Diethyl-2,2'-carbocyanine Iodide **3599-32-4**, **IR** 125 **14187-31-6**, 1,1'-Diethyl-2,2'-dicarbocyanine Iodide **14806-50-9**, 3,3'-Diethyloxadicarbocyanine Iodide
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(luminescent or colorimetric material; method for determination of structural defects of coatings using)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)

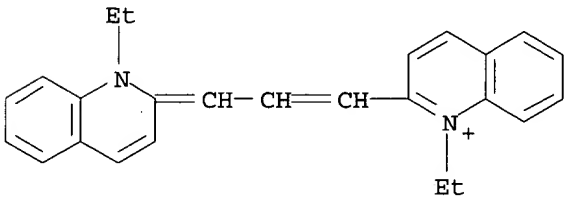
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Association of cationic and anionic quinocyanine dyes was studied by applying high pressure to the dye solns. The absorption spectra of 4 dye solns. were measured at pressures up to 600 MPa. The spectra varied intensively with pressure increase. This was interpreted in terms of the association of aqueous dye induced by pressure. The phys. properties of the dyes are discussed.

IT **20187-38-6**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; association of quinocyanine dyes in solution under high pressure)

RN 20187-38-6 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 8 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:696234 HCAPLUS
DOCUMENT NUMBER: 137:239406
TITLE: Method for determination of structural defects of coatings
INVENTOR(S): Potyrailo, Radislav Alexandrovich; Olson, Daniel Robert; Brennan, Michael Jarlath, Jr.; Cawse, James Norman; Chisholm, Bret Ja
PATENT ASSIGNEE(S): General Electric Company, USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002071045	A2	20020912	WO 2001-US50362	20011026
WO 2002071045	A3	20030417		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

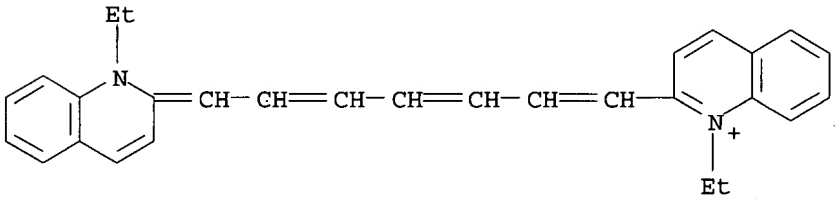
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AUTHOR(S): Kasatani, Kazuo
CORPORATE SOURCE: Faculty of Engineering, Department of Advanced Materials Science and Engineering, Yamaguchi University, Tokiwadai, Ube, 755-8611, Japan
SOURCE: Optical Materials (Amsterdam, Netherlands) (2003), 21(1-3), 93-97
CODEN: OMATET; ISSN: 0925-3467
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Third-order optical nonlinearities of several cyanine dyes were measured under resonant conditions by the femtosecond degenerate four-wave mixing (DFWM) technique. Temporal profiles of the DFWM signal were measured with a time resolution of 0.3 ps, and were found to consist of at least two components, the coherent instantaneous nonlinear response and the delayed response with a decay time constant of several hundred picoseconds. The latter can be attributed to mol. rotational relaxation of these dyes. The values of electronic component of the optical nonlinear susceptibility, χexxxx(3), for these dyes were ≈2 +10-12 esu at the very low concentration of 1 + 10-5 mol dm-3. The electronic component of mol. hyperpolarizability, γe, was calculated to be ≈1 + 10-28 esu for each dye.

IT **17695-32-8**, NK-123
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(cyanine dye; large electronic third-order optical nonlinearities of)

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 7 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:766520 HCAPLUS
DOCUMENT NUMBER: 138:206472
TITLE: Association of quinocyanine dyes under high pressure
AUTHOR(S): Iwasaki, Masashi; Tai, Katsuki; Okamoto, Masami
CORPORATE SOURCE: Dep. Chem. Materials Technology, Kyoto Inst. Technology, Matsugasaki, Sakyo-ku, Kyoto, 606-8585, Japan
SOURCE: Nippon Shashin Gakkaishi (2002), 65(4), 291-294
CODEN: NSGKAP; ISSN: 0369-5662
PUBLISHER: Nippon Shashin Gakkai

TITLE: Excitation energy transfer in dendritic host-guest donor-acceptor systems

AUTHOR(S): Kohn, Fabian; Hofkens, Johan; Gronheid, Roel; Cotlet, Mircea; Mullen, Klaus; Van der Auweraer, Mark; De Schryver, Frans C.

CORPORATE SOURCE: Department of Chemistry, Laboratory for Photochemistry and Spectroscopy, Katholieke Universiteit Leuven, Louvain, 3001, Belg.

SOURCE: ChemPhysChem (2002), 3(12), 1005-1013
CODEN: CPCHFT; ISSN: 1439-4235

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

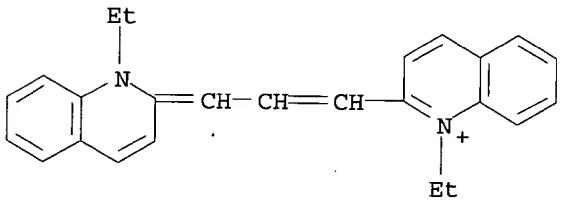
LANGUAGE: English

AB We report on a study of a phys. formed host-guest system, which was designed to be investigated by fluorescence energy transfer. All donor and acceptor mols. used were cyanine dyes. Investigation was performed at the ensemble level as well as at the single-mol. level. The ensemble measurements revealed a distribution of binding sites as well for the donor as for the acceptor. Accordingly, we found a distribution of the energy transfer efficiency. At the single-mol. level, these distributions are still present. We could discriminate entities that show very efficient energy transfer, some that do not show any energy transfer and systems whose energy transfer efficiency is only about 50%. The latter allowed the time-resolved detection of energy transfer of single entities through the acceptor decay. Finally, we discuss the observation that the energy transfer efficiency fluctuates as a function of time.

IT **2768-90-3**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(cyanine dye; excitation energy transfer in dendritic host-guest donor-acceptor systems containing)

RN 2768-90-3 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 6 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:893920 HCAPLUS

DOCUMENT NUMBER: 139:70438

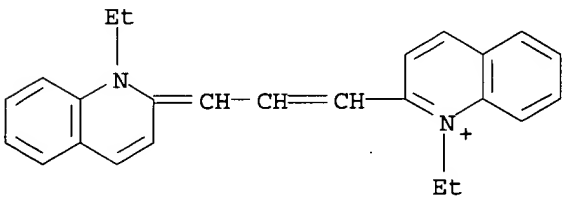
TITLE: Large electronic third-order optical nonlinearities of cyanine dyes measured by resonant femtosecond degenerate four-wave mixing

TITLE: Determination of micellar microenvironment of pinacyanol by visible spectroscopy
AUTHOR(S): Sabate, Raimon; Estelrich, Joan
CORPORATE SOURCE: Departament de Fisicoquimica, Facultat de Farmacia, Universitat de Barcelona, Barcelona, Catalonia, 08028, Spain
SOURCE: Journal of Physical Chemistry B (2003), 107(17), 4137-4142
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The interaction of pinacyanol (PIN, a cationic cyanine dye), with Triton X-100, sodium dodecyl sulfate, and C1-16-alkyltrimethylammonium bromide micelles was studied by visible spectrophotometry. PIN exists as a monomer and in aggregated form (dimers, trimers, and higher aggregates) in aqueous solution, but dimers and higher aggregates were split into monomers in the presence of surfactants (or on addition of organic solvents). The interaction of PIN with any kind of micelles produced a bathochromic shift of all of the spectral bands and increased the most red-shifted band. The deconvolution of each exptl. spectrum into three bands allowed the calcn. of the molar absorptivity of any band. The extent of the binding of the dye to micelles can be measured by the association constant The highest value of this was achieved with anionic, then with nonionic, and, finally, with cationic micelles. In the latter, the higher the length of the hydrophobic chain, the higher the association constant By comparing the wavelength shifts in micellar systems with those observed in organic solvents, it was possible to assign a kind of microenvironment of PIN in the micelle.

IT **605-91-4**, Pinacyanol
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; determination of micellar microenvironment of pinacyanol by visible spectroscopy)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

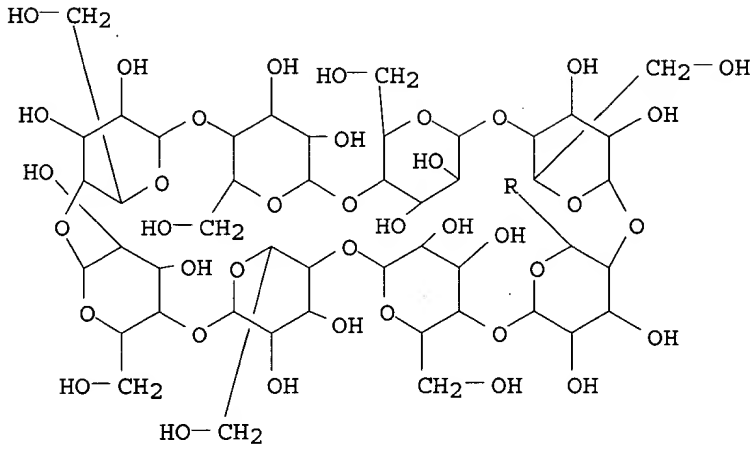
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

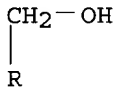
L29 ANSWER 5 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:10833 HCAPLUS
DOCUMENT NUMBER: 138:256577

NAME)

CM 1

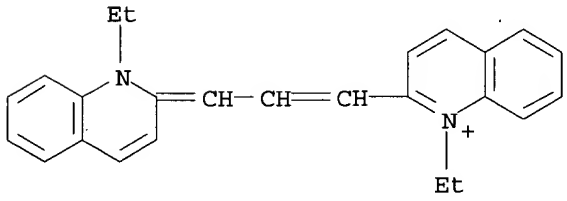
CRN 17465-86-0
CMF C48 H80 O40





CM 2

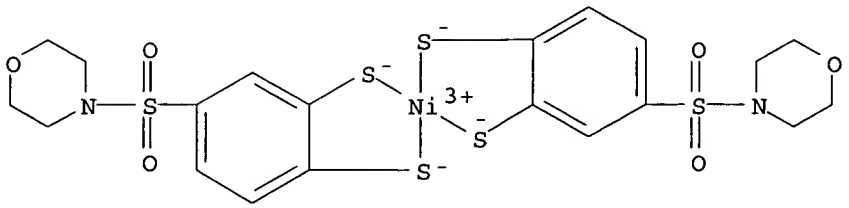
CRN 2768-90-3
CMF C25 H25 N2 . Cl



● Cl⁻

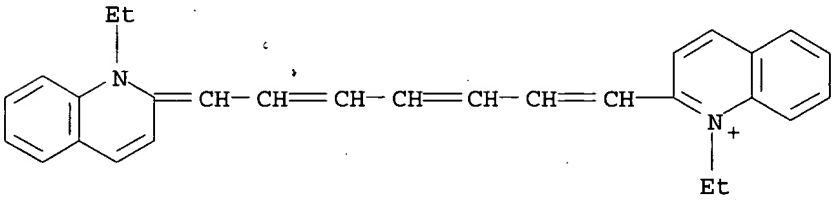
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 4 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:266418 HCAPLUS
DOCUMENT NUMBER: 138:403070



CM 2

CRN 37069-61-7
CMF C29 H29 N2



L29 ANSWER 3 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:494996 HCAPLUS
DOCUMENT NUMBER: 139:165852
TITLE: Inclusion complexes of dyes and cyclodextrins: modeling supermolecules by rigorous quantum mechanics
AUTHOR(S): Adeagbo, W. A.; Buss, V.; Entel, P.
CORPORATE SOURCE: Institute of Theoretical Physics, Gerhard-Mercator University, Duisburg, 47048, Germany
SOURCE: Journal of Inclusion Phenomena and Macrocyclic Chemistry (2002), Volume Date 2003, 44(1-4), 203-205
CODEN: JIPCF5; ISSN: 1388-3127
PUBLISHER: Kluwer Academic Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

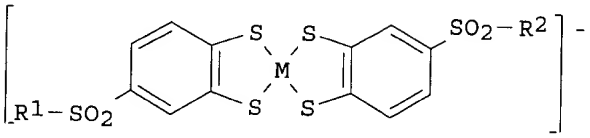
AB The results of structure optimization and mol. dynamics simulation of host-guest 1:2 γ-cyclodextrin-pinacyanol chloride dye inclusion complexes are obtained by applying a d. functional based tight-binding code. The results attempt to correlate UV/visible and CD spectral data with calculated aggregate structures of the sandwich dimer, with the monomers twisted slightly against each other. The sense of twist is predetd. by the chirality of the complexing host. The UV/visible spectra are interpreted using the exciton model. Within this model, each excited state of the monomer generates two excitonic states in the dimer. The interaction between the two monomers results then in a Davydov splitting of the two dimer states. The opposite signs of the two dimer states can be attributed to the twist of the monomers when they interact.

IT **577794-42-4**
RL: PRP (Properties)
(d.-functional modeling of inclusion complexes of dyes and cyclodextrins)
RN 577794-42-4 HCAPLUS
CN γ-Cyclodextrin, compd. with 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]quinolinium chloride (1:2) (9CI) (CA INDEX

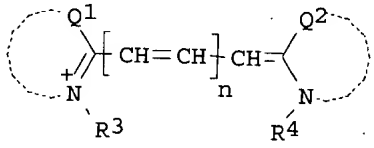
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003221523	A2	20030808	JP 2002-23397	20020131
PRIORITY APPLN. INFO.:			JP 2002-23397	20020131
OTHER SOURCE(S):	MARPAT 139:165857			

GI



I



II

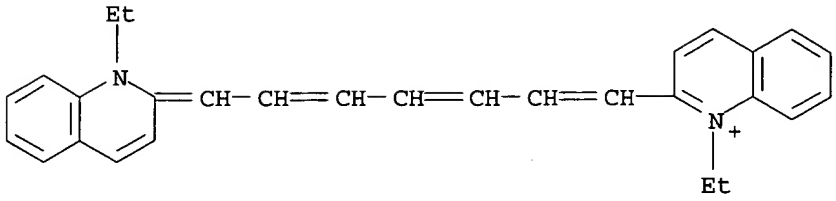
AB Title pigments comprise ionic conjugates of substituted benzene dithiol metal anion I and cyano dye cation II, wherein R1, R2 = C1-6 alkyl, C1-8 alkylamino, (substituted) morpholino, piperidino, pyrrolidino, thiomorpholino, piperazino, or Ph group; R3, R4 = C1-8 alkyl; M = transition metals; Q1, Q2 = atom group for nitrogen-containing 5 or 6-membered hetero ring formation which may contain fused rings; and n = 2-4 integer. Thus, 59.2 g 4-(morpholinosulfonyl)-1,2-dichlorobenzene and 6.7 g sulfur were reacted at 90-95° for 6 h, 22.9 g nickel chloride was added therein and reacted to give 36.6 g benzene dithiol nickel complex with absorption maximum at 858 nm, 8.8 g of which was mixed with 6.1 g NK 2014 cyanine dye to give a near-**IR** absorbing pigment, 1 part of the resulting pigment was mixed with 100 parts ethylcellosolve and applied on a polyester film and dried to give a near-**IR** absorbing material with light transmittance at 830 nm 13.5% initially and 13.6% after irradiation with light for 300 h.

IT **574744-49-3P**
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(pigment; preparation of near **IR** absorbing pigments with good light resistance for near **IR** absorbing materials)

RN 574744-49-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, bis[4-[[3,4-di(mercapto-κS)phenyl]sulfonyl]morpholinato(2-)]nickelate(1-) (9CI) (CA INDEX NAME)

CM 1

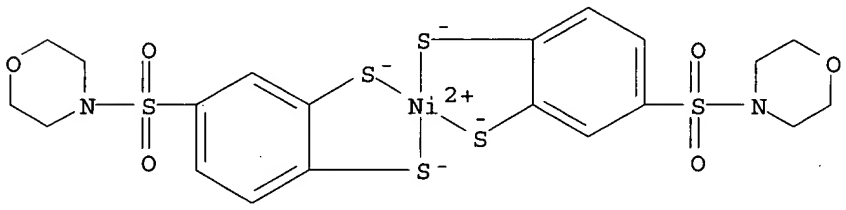
CRN 366478-31-1
CMF C20 H22 N2 Ni O6 S6
CCI CCS



RN 775320-92-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, bis[4-[[3,4-di(mercapto-κS)phenyl]sulfonyl]morpholinato(2-)]nickelate(2-) (2:1) (9CI) (CA INDEX NAME)

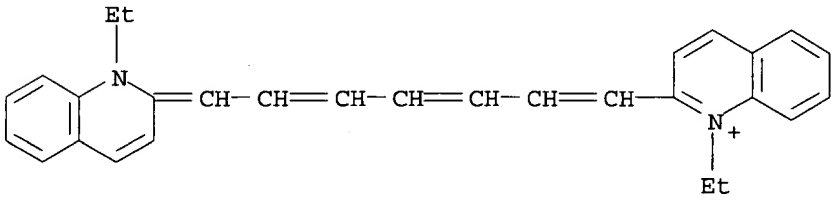
CM 1

CRN 775320-61-1
CMF C20 H22 N2 Ni O6 S6
CCI CCS

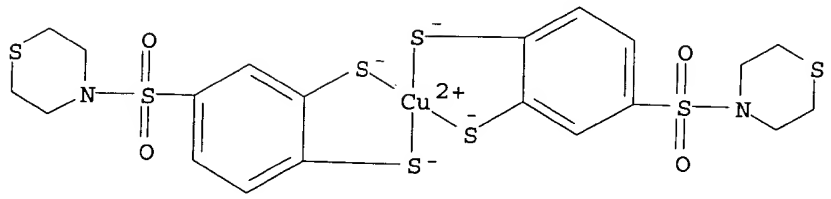


CM 2

CRN 37069-61-7
CMF C29 H29 N2

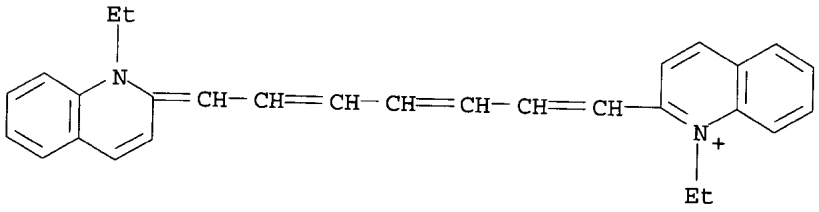


L29 ANSWER 2 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:607521 HCAPLUS
DOCUMENT NUMBER: 139:165857
TITLE: Near **infrared** absorbing pigments with good light resistance and near **infrared** absorbing materials
INVENTOR(S): Nishiguchi, Hideaki; Suzuki, Michio
PATENT ASSIGNEE(S): Sumitomo Seika Chemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese



CM 2

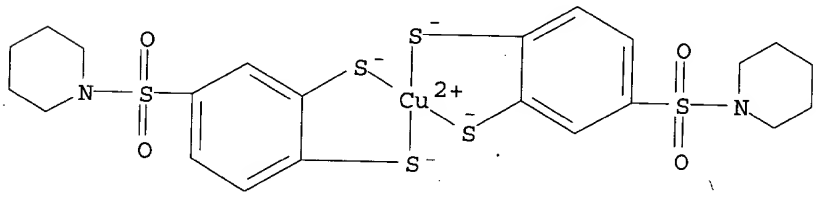
CRN 37069-61-7
CMF C29 H29 N2



RN 775320-90-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, bis[1-[[3,4-di(mercapto-κS)phenyl]sulfonyl]piperidinato(2-)]cuprate(2-) (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 775320-59-7
CMF C22 H26 Cu N2 O4 S6
CCI CCS



CM 2

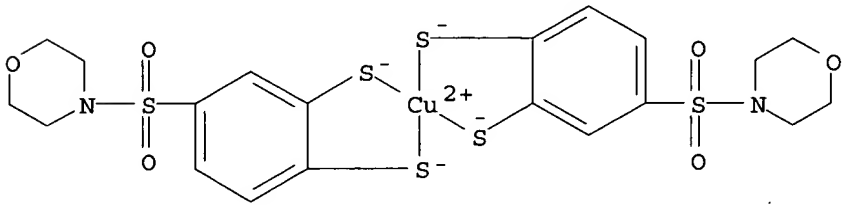
CRN 37069-61-7
CMF C29 H29 N2

IT **775320-86-0 775320-88-2 775320-90-6**
775320-92-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(optical absorption pigment for optical absorption material)

RN 775320-86-0 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, bis[4-[[3,4-di(mercapto-κS)phenyl]sulfonyl]morpholinato(2-)]cuprate(2-) (2:1) (9CI) (CA INDEX NAME)

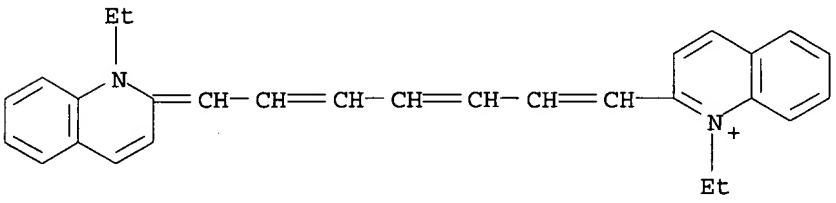
CM 1

CRN 775320-55-3
CMF C20 H22 Cu N2 O6 S6
CCI CCS



CM 2

CRN 37069-61-7
CMF C29 H29 N2



RN 775320-88-2 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, bis[4-[[3,4-di(mercapto-κS)phenyl]sulfonyl]thiomorpholinato(2-)]cuprate(2-) (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 775320-57-5
CMF C20 H22 Cu N2 O4 S8
CCI CCS

NUMBER OF NODES IS 92

STEREO ATTRIBUTES: NONE

L5	712	SEA	FILE=REGISTRY	SUB=L3 SSS FUL	L4
L6	1046	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L5
L15	2248	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	41-11/CC
L16	32	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L15 AND L6
L18	12170	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	FLUORESCENT DYES+PFT,NT,RT/CT
L19	32614	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	CYANINE DYES+PFT,NT,RT/CT
L20	14417	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	FLUORESCENT INDICATORS+PFT,RT/CT
L21	318	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L6 AND (L15 OR L18 OR L19 OR L20)
L27	46	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L21 AND (NIR OR ?INFRA?)
L28	11	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L27 AND ?LASER?
L29	75	SEA	FILE=HCAPLUS	ABB=ON PLU=ON	L27 OR L28 OR L16

=> d l29 ibib abs hitstr 1-75

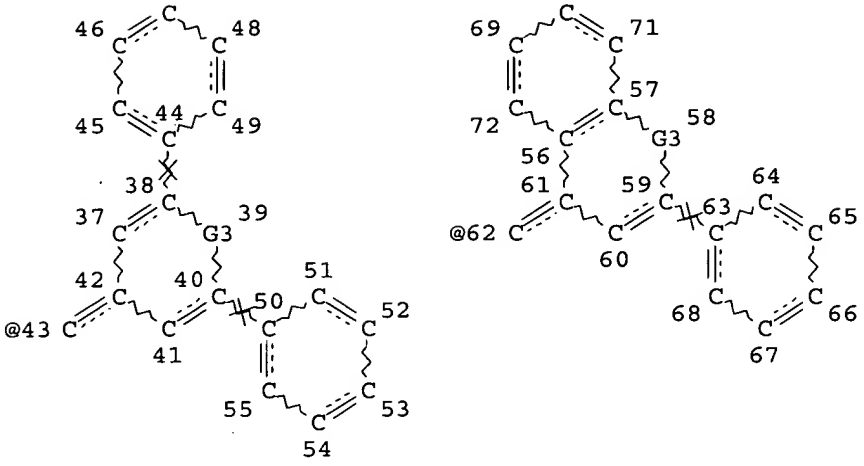
L29 ANSWER 1 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:842330 HCAPLUS
DOCUMENT NUMBER: 141:357774
TITLE: Optical absorption pigment for optical absorption material
INVENTOR(S): Nishiguchi, Hideaki; Takeuchi, Takeshi; Fujisawa, Eiji; Suzuki, Michio
PATENT ASSIGNEE(S): Sumitomo Seika Chemicals Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

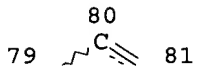
PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 2004285314	A2	20041014	JP 2003-130160		20030508
PRIORITY APPLN. INFO.:			JP 2002-303003	A	20021017
			JP 2003-24346	A	20030131

OTHER SOURCE(S): MARPAT 141:357774
GI

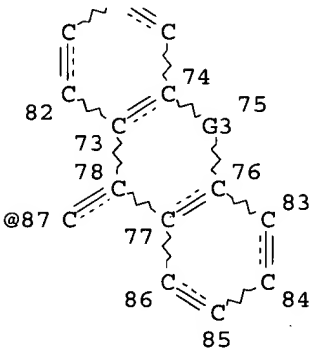
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an optical absorption pigment, suited for use in making an optical absorption materials, such as a plasma display filter, an **IR** filter, etc., characterized by: the ion pair composed of the substituted benzenethiol transition metal complex anion represented by I [R1and R2 = C1-6 alkyl, C1-8 alkylamino, etc.; and M = transition metal atom] and the cyanine dye cation represented by II [Q1 and Q2 = 5 and 6 member N-heterocyclic forming atoms; R3 and R4 = C1-8 alkyl; and R5 = CH=CR6-CH, CH=CH-CR6=CH-CH, etc. [R6 = halo, alkyl, and aryl]]; and the diimonium salt dye represented by III [R7-10 = H, C1-6 alkyl, C1-8 alkylamino and aryl; X- = halide, inorg. and organic ions].





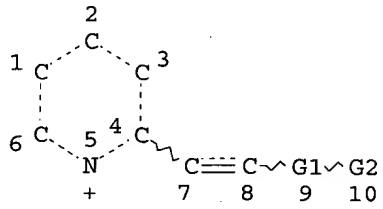
Page 2-A

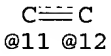


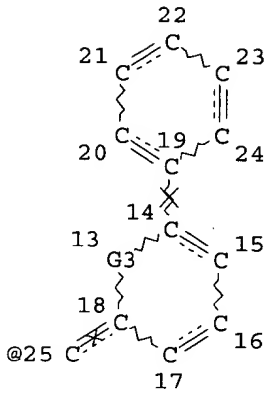
Page 3-A
REP G1=(0-2) 11-8 12-10
VAR G2=25/36/43/62/87
VAR G3=O/S/SE/88/91
NODE ATTRIBUTES:
CHARGE IS *+ AT 5
CONNECT IS E1 RC AT 89
CONNECT IS E1 RC AT 90
CONNECT IS E1 RC AT 92
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

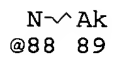
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED

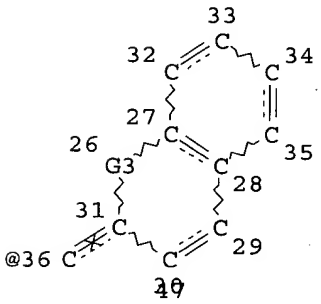
STEREO ATTRIBUTES: NONE
L3 719 SEA FILE=REGISTRY SSS FUL L1
L4 STR

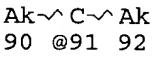






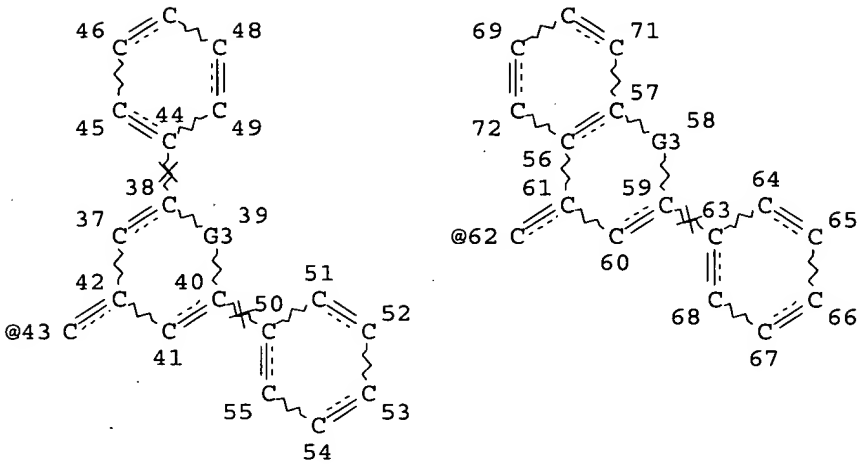


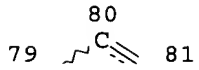




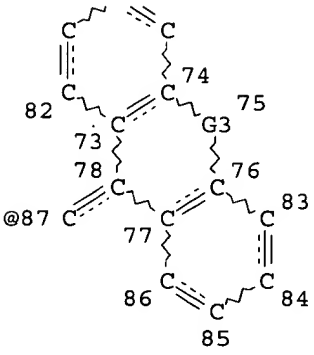
70

Page 1-A





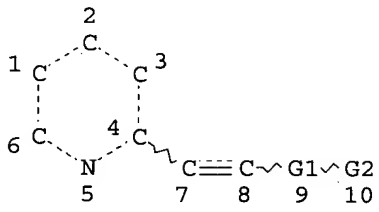
Page 2-A



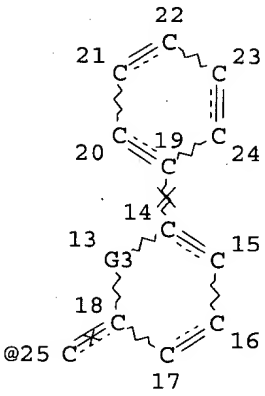
Page 3-A
REP G1=(0-2) 11-8 12-10
VAR G2=25/36/43/62/87
VAR G3=O/S/SE/88/91
NODE ATTRIBUTES:
CONNECT IS E1 RC AT 89
CONNECT IS E1 RC AT 90
CONNECT IS E1 RC AT 92
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 92

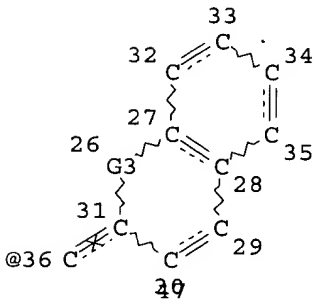
=> d que
L1 STR



C≡C
@11 @12



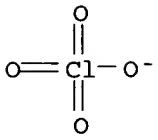
N~Ak
@88 89



Ak~C~Ak
90 @91 92

70

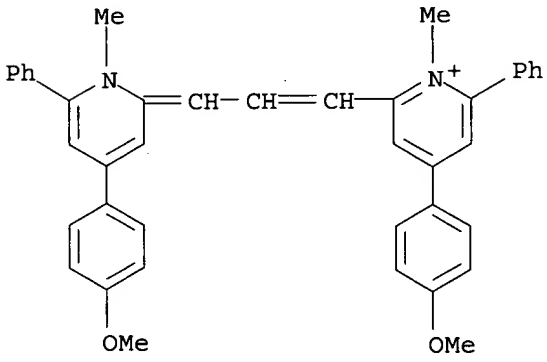
Page 1-A



RN 94663-85-1 HCAPLUS
CN Pyridinium, 4-(4-methoxyphenyl)-2-[3-[4-(4-methoxyphenyl)-1-methyl-6-phenyl-2(1H)-pyridinylidene]-1-propenyl]-1-methyl-6-phenyl-, perchlorate (9CI) (CA INDEX NAME)

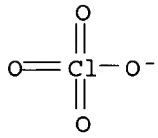
CM 1

CRN 94663-84-0
CMF C41 H37 N2 O2



CM 2

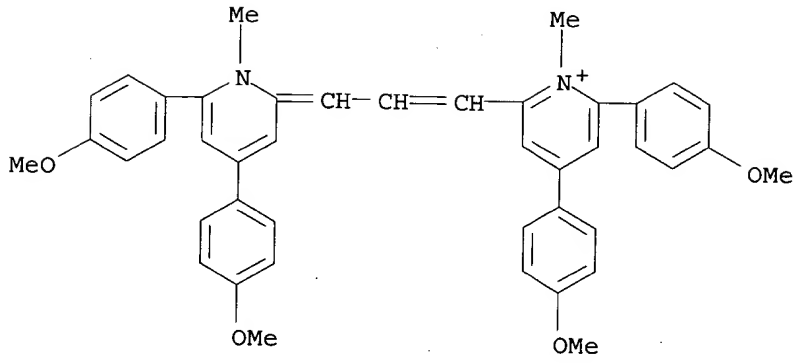
CRN 14797-73-0
CMF Cl O4



RN 94663-87-3 HCAPLUS
CN Pyridinium, 6-[3-[4,6-bis(4-methoxyphenyl)-1-methyl-2(1H)-pyridinylidene]-1-propenyl]-2,4-bis(4-methoxyphenyl)-1-methyl-, perchlorate (9CI) (CA INDEX NAME)

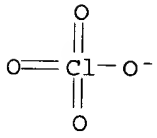
CM 1

CRN 94663-86-2
CMF C43 H41 N2 O4



CM 2

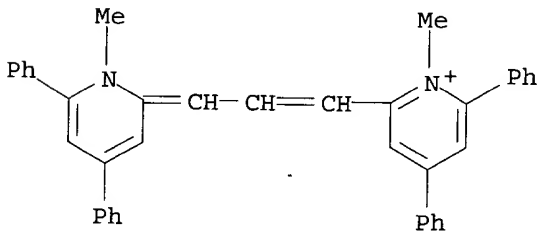
CRN 14797-73-0
CMF Cl O4



IT **75547-08-9**
RL: PRP (Properties)
(visible spectra of)
RN 75547-08-9 HCAPLUS
CN Pyridinium, 1-methyl-2-[3-(1-methyl-4,6-diphenyl-2(1H)-pyridinylidene)-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

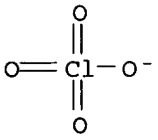
CM 1

CRN 75547-07-8
CMF C39 H33 N2

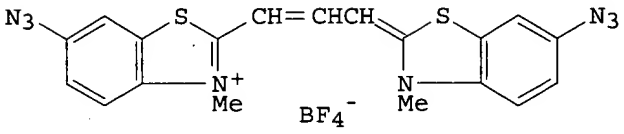


CM 2

CRN 14797-73-0
CMF Cl O4



L29 ANSWER 57 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1984:439817 HCAPLUS
DOCUMENT NUMBER: 101:39817
TITLE: Photochemistry of azide group-containing dyes in solution
AUTHOR(S): Pochinok, V. Ya.; Smirnov, V. A.; Brichkin, S. B.; Avramenko, L. F.; Tyltina, L. I.; Grigorenko, T. F.; Ol'shevskaya, I. A.; Skopenko, V. N.
CORPORATE SOURCE: Kiev. Gos. Univ., Kiev, USSR
SOURCE: Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1984), 50(3), 296-301
CODEN: UKZHAU; ISSN: 0041-6045
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI

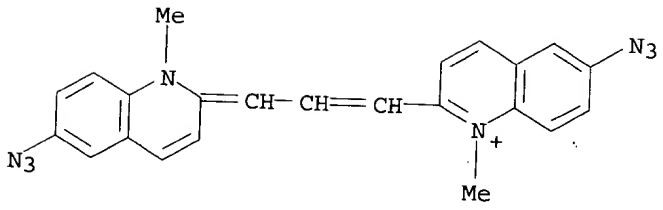


I

AB Study of the photodecompn. of 21 azide derivs. of triphenylmethane and cyanine dyes by irradiation at the wavelength of their resp. absorption maximum showed that dissociation can be caused by visible light ≤ 600 nm, proceeds through the excited singlet state by a mechanism involving predissocn., and occurs with increasing quantum yield as the azide group is more closely conjugated with the absorbing chromophore. The quantum yield for dissociation ranged upward to 4 + 10-2 for I [90967-10-5]. Decreased nonradiative decay of electron energy also increases the quantum yield of dissociation

IT **90967-08-1**
RL: PROC (Process)
(photodissocn. of, quantum yield for)

RN 90967-08-1 HCAPLUS
CN Quinolinium, 6-azido-2-[3-(6-azido-1-methyl-2(1H)-quinolinylidene)-1-propenyl]-1-methyl-, iodide (9CI) (CA INDEX NAME)



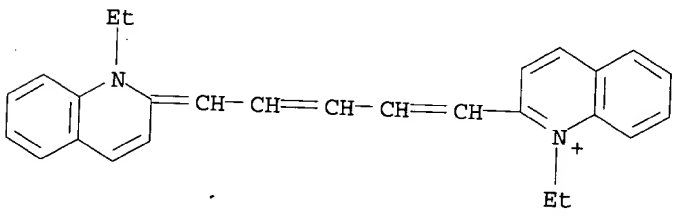
● I⁻

L29 ANSWER 58 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1984:129578 HCAPLUS
DOCUMENT NUMBER: 100:129578
TITLE: Passive mode locking in the near **infrared**
AUTHOR(S): Sibbett, W.; Taylor, J. R.
CORPORATE SOURCE: Dep. Phys., Imp. Coll., London, SW7 2BZ, UK
SOURCE: IEEE Journal of Quantum Electronics (1984), QE-20(2), 108-10
CODEN: IEJQA7; ISSN: 0018-9197
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Passive mode locking in the previously uncovered 705-798 nm spectral region was achieved with a simple flashlamp-pumped dye **laser** using Rhodamine 700 as the active medium with 1,1'-diethyl-4,4'-carbocyanine iodide and 1,1'-diethyl-2,2'-dicarbocyanine iodide as saturable absorbers. Pulses having duration in the range 4-7 ps with peak powers up to 10 MW were produced. Several other saturable absorbers also operated successfully in this wavelength range.

IT **14187-31-6**
RL: PRP (Properties)
(as saturable absorber, in passive mode locking of Rhodamine 700 **laser**)

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

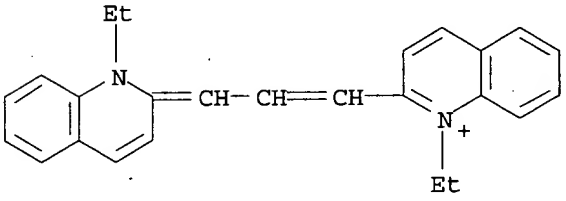
L29 ANSWER 59 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1984:122747 HCAPLUS

DOCUMENT NUMBER: 100:122747
TITLE: Nitrogen 1s binding energy shifts detected from a homologous series of cyanine dyes
AUTHOR(S): Gold, L.; Giuliani, J. F.
CORPORATE SOURCE: Chem. Div., Nav. Res. Lab., Washington, DC, 20375, USA
SOURCE: Journal of the American Chemical Society (1984), 106(7), 2209-10
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Study of a series of sym. cyanine dyes by ESCA in conjugation with electronic absorption spectrometry shows that the principal electronic absorption band shifts with conjugation are directly reflected in the delocalization of the nitrogen (1s) core electrons in which the binding energy decreases linearly with increasing conjugation. The decrease in nitrogen (1s) binding energy with increasing dye conjugation reflects a greater delocalization of charge over the entire dye mol., and hence an increased probability for electronic and optical conductivity

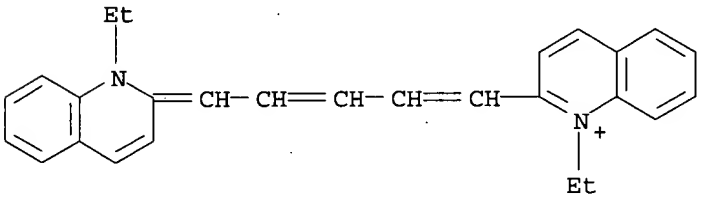
IT **605-91-4 14187-31-6**
RL: PRP (Properties)
(conjugation in, nitrogen (1s) binding energy in relation to)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



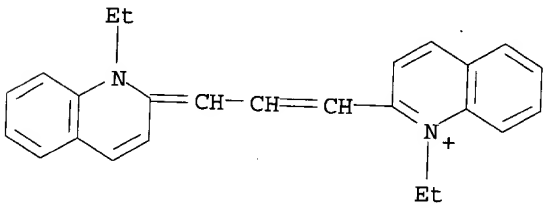
● I^-

L29 ANSWER 60 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:440301 HCAPLUS
DOCUMENT NUMBER: 97:40301
TITLE: Calculation of the electronic level of sensitive dye molecules
AUTHOR(S): Tang, Yingwu; Wang, Jiazhen; Guo, Jinliang
CORPORATE SOURCE: Dep. Chem. Chem. Eng., Qinghua Univ., Beijing, Peop. Rep. China
SOURCE: Qinghua Daxue Xuebao (1981), 21(4), 71-82
CODEN: CHHPAH; ISSN: 0577-9189
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB The eigenpolynomials of 16 dye mols. including quinocyanine, thiacarbocyanine, oxacarbocyanine, and selenacarbocyanine were derived by MO graph theory. Energies of the mol. electronic levels were obtained by solving these polynomials. The resonance integral β was evaluated by linear regressive anal. Values of excited energies and reduction half-wave potentials of these dyes were paralleled with each other, being in complete agreement with the published exptl. data. All calcns. were performed with a programmable pocket calculator.

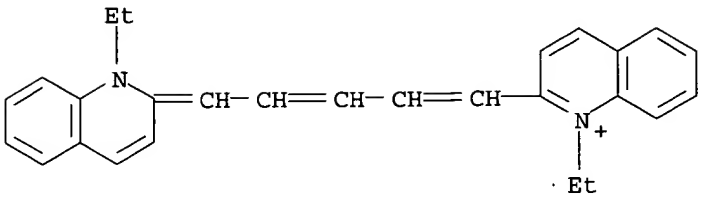
IT **605-91-4 14187-31-6 17695-32-8**
RL: USES (Uses)
(sensitive dyes, electronic levels of, calcn. of, by MO graph theory)

RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



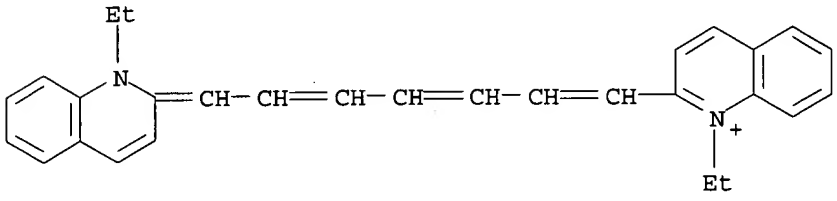
● I⁻

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

L29 ANSWER 61 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:87011 HCAPLUS
DOCUMENT NUMBER: 96:87011
TITLE: Pyrylocyanines. Part 13. Symmetric pyrylocyanines on a base of 2,3-polymethylene-4,6-diphenylpyrilium salts
AUTHOR(S): Kudinova, M. A.; Derevyanko, N. A.; Dyadyusha, G. G.; Ishchenko, A. A.; Tolmachev, A. I.
CORPORATE SOURCE: Inst. Org. Khim., Kiev, 252660, USSR
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (1981), (9), 1195-1201
CODEN: KGSSAQ; ISSN: 0453-8234
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB Pyrylocyanine dyes I (X = O, S, NMe; m = 2, 3; n = 0-2), prepared from 2,3-polymethylene-4,6-diphenylpyrylium perchlorates or 6,7-dihydro-2,4-diphenyl-5H-1-benzothiopyran-8-carboxaldehyde (II) [80724-56-7] showed more explicit bond structure and bathochromism in their absorption spectra when m = 3 and, especially, 2, owing to steric (e.g., fixation of di-cis-conformations of polymethine chains) and conjugational (e.g., interaction between electrons of saturated groups and unsatd. chromophores) effects, as confirmed by H1 NMR and quantum calcns. (e.g., of absorption maximum using the HMO method). Thus, I (X = O; m = 2; n = 1), obtained in 64% yield by 30 min heating (110°) of 2,4-diphenylcyclopenta[b]pyrylium perchlorate [21016-30-8] and

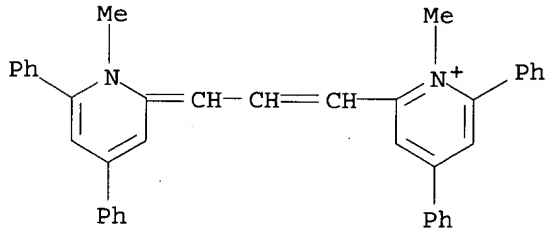
phenyl[3-(phenylamino)-2-propenylidene)ammonium chloride [28140-60-5] in the presence of NaOAc, AcOH, and Ac2O, exhibited λmax = 855 and 960 nm, average absorption band position M-1 = 894.9 nm, band width σ = 1061 cm-1, and coeffs. of asymmetry γ1 = 1.78, of excess γ2 = 5.2, and of fine structure F = 0.131, whereas I (X = O; polymethylene bridge absent; n = 1), synthesized from II, showed λmax = 820 and 910 nm, M-1 = 839.5 nm, σ = 1137 cm-1, γ1 = 1.32, γ2 = 2.9, and F = 0.083.

IT **75547-08-9 75547-10-3**
RL: USES (Uses)
(dye, spectral characterization of)

RN 75547-08-9 HCAPLUS
CN Pyridinium, 1-methyl-2-[3-(1-methyl-4,6-diphenyl-2(1H)-pyridinylidene)-1-propenyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

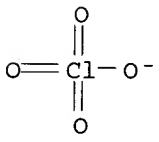
CM 1

CRN 75547-07-8
CMF C39 H33 N2



CM 2

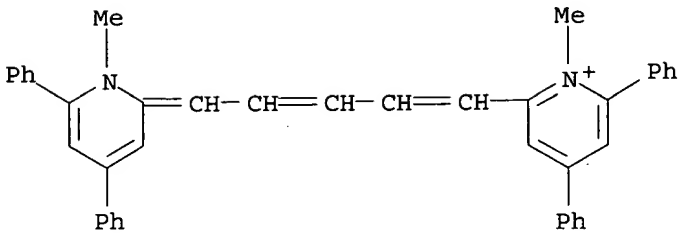
CRN 14797-73-0
CMF Cl O4



RN 75547-10-3 HCAPLUS
CN Pyridinium, 1-methyl-2-[5-(1-methyl-4,6-diphenyl-2(1H)-pyridinylidene)-1,3-pentadienyl]-4,6-diphenyl-, perchlorate (9CI) (CA INDEX NAME)

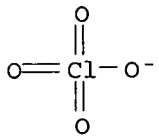
CM 1

CRN 75547-09-0
CMF C41 H35 N2

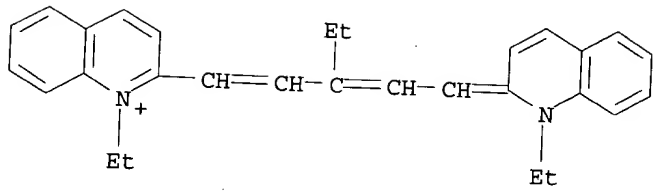


CM 2

CRN 14797-73-0
CMF Cl O4



L29 ANSWER 62 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:70416 HCAPLUS
DOCUMENT NUMBER: 96:70416
TITLE: Chemistry of enolic ethers or esters. LII. Reaction of Vilsmeier complex vinyl analogs with heterocyclic compounds as a new method for synthesizing cyanine dyes
AUTHOR(S): Makin, S. M.; Pomogaev, A. I.
CORPORATE SOURCE: Inst. Tonkoi Khim. Tekhnol., Moscow, USSR
SOURCE: Zhurnal Organicheskoi Khimii (1981), 17(11), 2263-8
CODEN: ZORKAE; ISSN: 0514-7492
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI For diagram(s), see printed CA Issue.
AB The reaction of acetals RCH2CH(OEt)2 (I, more reactive than the corresponding aldehydes or enol ethers) with the Vilsmeier complex Me2N+:CHCl PO2Cl2- (II) [21382-90-1] gave (Me2N:CHCR:CHOEt)+PO2Cl2-, condensation of which with 3-ethyl-2-methylbenzothiazolium iodide [3119-93-5] at 80-120° in Ac2O in the presence of Et3N resulted in the meso-substituted dicarbocyanine dyes III (R = H, Me, Et, Me2CH, F, Cl, Br, Ph, OEt, CCl3; X = ClO4, I) obtained in 26-84% yields, with λmax ≈ 650 nm. Similar dyes were also prepared in acceptable yields from I, II, and 1-ethyl-4-methylquinolinium iodide [605-59-4], 1-ethyl-2-methylquinolinium iodide [606-55-3], or 3-ethyl-1,1,2-trimethylbenz[e]indolium iodide [80566-25-2], and the tricarbocyanine dyes (e.g., IV [65303-24-4]) were synthesized using V (m = 0, n = 1 or 2; m = n = 1, Z = CH2 or Me2N+I-) and II.
IT **67233-71-0P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(dye, preparation and properties of)
RN 67233-71-0 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-ethyl-5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



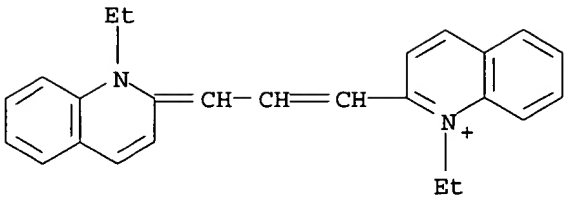
● I^-

L29 ANSWER 63 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:21271 HCAPLUS
DOCUMENT NUMBER: 96:21271
TITLE: Role of nitroxyl radical in the quenching of triplet states of cyanine dyes
AUTHOR(S): Borisevich, Yu. E.; Kuz'min, V. A.; Renge, I. V.; Darmanyan, A. P.
CORPORATE SOURCE: Inst. Khim. Fiz., Moscow, USSR
SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1981), (9), 2014-19
CODEN: IASKA6; ISSN: 0002-3353
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The quenching of the triplet state of cyanine dyes (A), having different oxidation (E, 0.25-1.0 V) and reduction (E') potentials, with stable nitroxyl radicals (B) in solution in the homologous series of alcs. with polarity (ε) ranging from 9.7 to 32.6 was studied by flash photolysis. Quenching, characterized by the rate constant k, proceeded via formation of charge-transfer complexes with B as donor and A triplet as acceptor of electrons for A with high E (e.g., 1.0 V), via acceleration of the intersystem crossing of A triplets to the ground state under perturbations induced by B for A with low E (e.g., 0.25 V), and via the 1st or 2nd mechanism in the more or less polar alcs., resp., for A with medium E (e.g., 0.75 V). The mechanisms proposed are based on the facts that log k linearly increased with increasing E during quenching with electron-donor p-anisidine [104-94-9] or with B (for E > 0.45 V) and decreased with increasing E' during quenching with electron-acceptor p-nitrotoluene [99-99-0], but did not correlate with E' during quenching with B, and remained practically unchanged or increased with increasing ε for A with low or high E, resp.

IT **20187-38-6**
RL: PRP (Properties)
(triplet state of, quenching of, by nitroxyl radicals, kinetics and mechanism of)

RN 20187-38-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]- (9CI) (CA INDEX NAME)

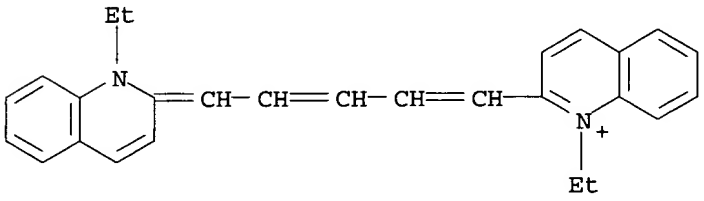


L29 ANSWER 64 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:159865 HCAPLUS
DOCUMENT NUMBER: 90:159865
TITLE: A high-output-power near-**infrared** tunable dye **laser**
AUTHOR(S): Byron, K. C.; Pert, G. J.
CORPORATE SOURCE: Dep. Appl. Phys., Univ. Hull, Hull, UK
SOURCE: Journal of Physics E: Scientific Instruments (1979), 12(4), 289-93
CODEN: JPSIAE; ISSN: 0022-3735
DOCUMENT TYPE: Journal
LANGUAGE: English

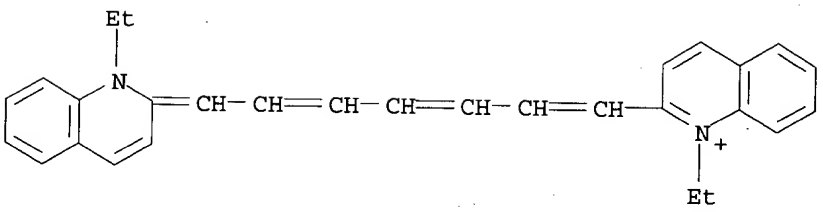
AB A ruby-**laser**-pumped dye **laser** having a linewidth of 1.8 nm was developed as a source of tunable high-output-power radiation covering the wavelength range 720-900 nm. With Brewster-angled prisms employed as a low-insertion-loss tuning element, output powers of between 5 and 24 MW were obtained for an input pumping power of up to 65 MW in a number of cyanine dyes. Conversion efficiencies of up to 40% were obtained with these dyes dissolved in ethylene glycol, which in general gave an improved performance compared with Me2CO solns.

IT **14187-31-6 17695-32-8**
RL: DEV (Device component use); USES (Uses)
(**laser**, **IR** tunable)

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)

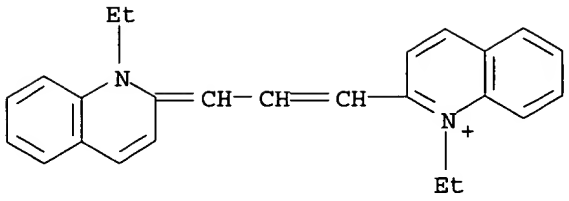


● I^-

L29 ANSWER 65 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:129827 HCAPLUS
DOCUMENT NUMBER: 90:129827
TITLE: Optical probe studies of relaxation processes in viscous liquids
AUTHOR(S): Barkatt, A.; Angell, C. A.
CORPORATE SOURCE: Dep. Chem., Purdue Univ., West Lafayette, IN, USA
SOURCE: Journal of Chemical Physics (1979), 70(2), 901-11
CODEN: JCPSA6; ISSN: 0021-9606
DOCUMENT TYPE: Journal
LANGUAGE: English

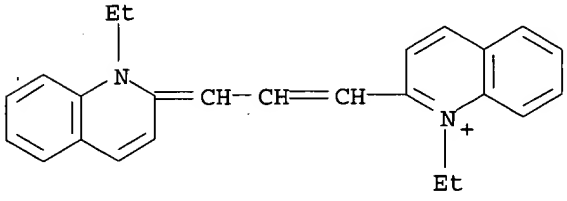
AB The question of relaxation time distributions in viscous liqs. was examined by observing time-dependent behavior of optically active elements of the liquid structure, both intrinsic and otherwise, in response to perturbations from equilibrium states. As a suitable medium for this study, the polyalc. sorbitol C6H8(OH)6 was adopted. Equilibrium distributions of intact and broken H bonds in the pure sorbitol were determined using near **IR** spectra, and the loss of, and reestablishment of, this equilibrium, during down and up temperature ramping processes, was monitored and analyzed. Anal. shows that the kinetics of the bond-breaking process are well accounted for by a relaxation function near equilibrium, of the form $\phi e(t) = e-[t/\tau 0)\beta]$, with $\beta = 0.55 \pm 0.03$. As extrinsic probes, 2 carbocyanine dyestuffs were introduced in low concns. into the sorbitol, and the equilibrium distribution of monomer and dimer species was determined as a function of temperature The loss and recovery of the equilibrium also was monitored during down and up temperature ramping expts. These equilibrium are lost and recovered at temps. far above that at which solvent structure equilibrium is established on the same time scale, showing that equilibration times for the monomer-dimer equilibrium are many orders of magnitude longer than for solvent structure.

IT **605-91-4 2768-90-3**
RL: PRP (Properties)
(optical probe study of relaxation processes in viscous media using)
RN 605-91-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

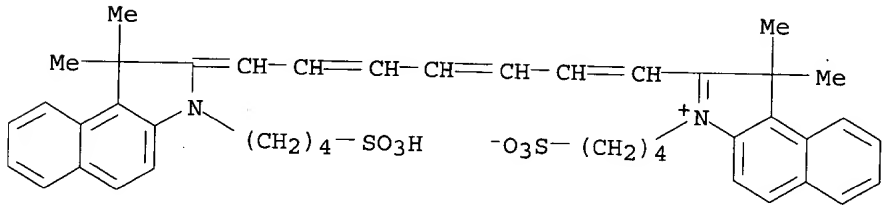
RN 2768-90-3 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl^-

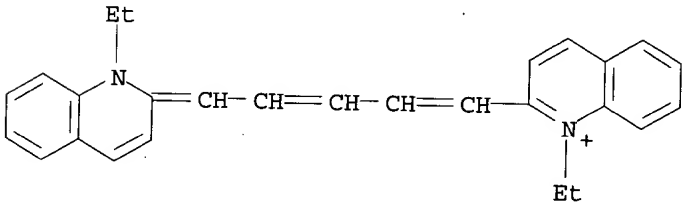
L29 ANSWER 66 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:142869 HCAPLUS
DOCUMENT NUMBER: 84:142869
TITLE: Lasing efficiency and photochemical stability of **IR laser** dyes in the 710-1080-nm spectral region
AUTHOR(S): Oettinger, Peter E.; Dewey, C. Forbes, Jr.
CORPORATE SOURCE: Thermo Electron Corp., Waltham, MA, USA
SOURCE: IEEE Journal of Quantum Electronics (1976), QE12(2, Pt. 2), 95-101
CODEN: IEJQA7; ISSN: 0018-9197
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lasing efficiencies and photochem. stabilities of **laser** dyes useful in the 710-1080 nm spectral region were investigated by using a Q-switched ruby **laser** pumping source. The measured bleaching rates, defined as the probability of irreversible decomposition of a dye mol. per absorbed photon, varied from ≤1 + 10-5 to 3 + 10-4 for the different dye-solvent combinations investigated. Broad-band lasing efficiencies (the ratios of dye **laser** output to ruby radiation input) ranged from 4-43%. Shifts of wavelength tuning range with variations in solvent, dye concentration, and dye **laser** cavity geometry are reported.
IT **3599-32-4 14187-31-6**
RL: PRP (Properties)

(lasing efficiency and photochem. stability of)
RN 3599-32-4 HCAPLUS
CN 1H-Benz[e]indolium, 2-[7-[1,3-dihydro-1,1-dimethyl-3-(4-sulfobutyl)-2H-benz[e]indol-2-ylidene]-1,3,5-heptatrienyl]-1,1-dimethyl-3-(4-sulfobutyl)-, inner salt, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



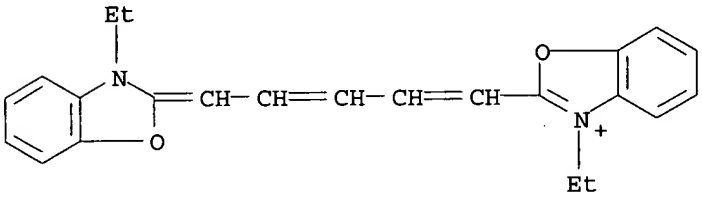
● I⁻

L29 ANSWER 67 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:505958 HCAPLUS
DOCUMENT NUMBER: 83:105958
TITLE: Dye **laser** with smooth spectral tuning in the 360-1000 nm range
AUTHOR(S): Loiko, M. M.; Mostovnikov, V. A.; Rubinov, A. N.; Motkin, V. S.
CORPORATE SOURCE: USSR
SOURCE: Kvantovaya Elektron. Lazernaya Spektrosk. (1974), 30-40, 491. Editor(s): Samson, A. M. "Nauka i Tekhnika": Minsk, USSR.
CODEN: 30GYAB
DOCUMENT TYPE: Conference
LANGUAGE: Russian
AB The **laser** instrument Raduga 3M was developed. It gives a rather intense **laser** beam of arbitrary frequency in the range 360-1000 nm with smooth tunability. The exciting light was a ruby **laser** with the basic frequency of 694 nm and a 1st harmonic of 347 nm. The

instrument consists of a pumping system and the organic dye **laser**. The main absorption bands of 20 dyes are shown graphically. Forty other dyes suitable for the use in this instrument and absorbing in the range of the ruby **laser** radiation are given.

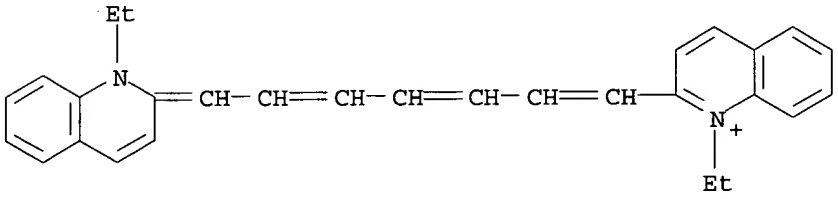
IT **14806-50-9 17695-32-8**
RL: DEV (Device component use); USES (Uses)
(**lasers** containing, **ir**-uv tunable)

RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

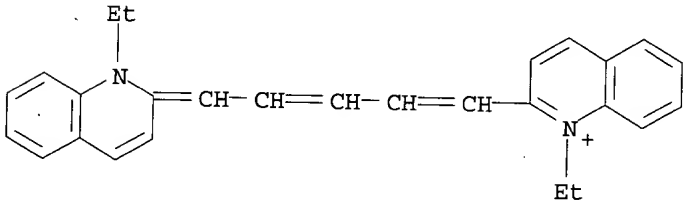
RL: PRP (Properties)
(**lasers** from, **ir**-uv tunable

L29 ANSWER 68 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:418619 HCAPLUS
DOCUMENT NUMBER: 83:18619
TITLE: Polymethine **ir laser** dyes for passive mode-locking of ruby **lasers**
AUTHOR(S): Lin, Chinlon
CORPORATE SOURCE: Bell Teleph. Lab., Holmdel, NJ, USA
SOURCE: Optics Communications (1975), 13(2), 106-8
CODEN: OPCOB8; ISSN: 0030-4018
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A Q-switched .apprx.60-nsec pulse was obtained from MeOH or Me2CO alone. Dyes with which a 100% modulated, mode-locked pulse train is obtained include: 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI), 1,1'-diethyl-4,4'-carbocyanine iodide (cryptocyanine), 1,1'-diethyl-11-bromo-2,2'-quinodicarbocyanine iodide, 1,3,3,1',3',3'-hexamethyl-2,2'-indotricarbocyanine iodide, 3,3'-diethyl-10-chloro-2,2'-(6,7,6',7'-dibenzo)thiadicarbocyanine iodide, 3,3'-diethyl-2,2'-thiatricarbocyanine iodide (DTTC iodide). Dyes with which a Q-switched (30-60 nsec) pulse with irregular modulation is obtained include: 3,3'-diethyl-2,2'-thiadicarbocyanine iodide, 3,3'-diethyl-2,2'-(5,6,5',6'-tetramethoxy)thiatricarbocyanine iodide, 3,3'-diethyl-2,2'-oxatricarbocyanine iodide, 3,3'-diethyl-2,2'-(5,5'-dimethyl)thiazolinotricarbocyanine iodide. With DDI pulses as short as 12 psec are obtained. The other mode-locking dyes generate pulses of 40-100 psec, owing to their longer recovery time for ground-state absorption.

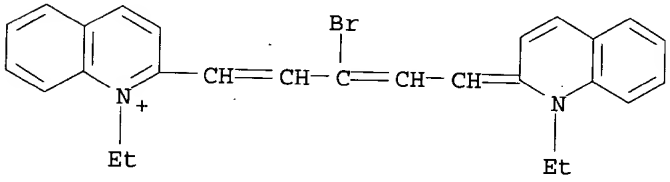
IT **14187-31-6 19764-91-1**
RL: PRP (Properties)
(ruby **laser** mode locking with)

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

RN 19764-91-1 HCAPLUS
CN Quinolinium, 2-[3-bromo-5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-1-ethyl-, iodide (9CI) (CA INDEX NAME)



● I⁻

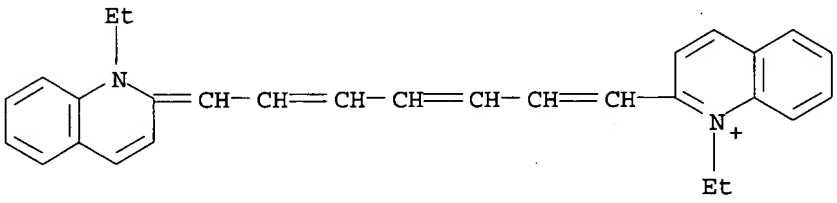
L29 ANSWER 69 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1975:118142 HCAPLUS
DOCUMENT NUMBER: 82:118142

TITLE: Photosensitized generation of single molecular oxygen with near-**infrared** radiation
AUTHOR(S): Nathan, Richard A.; Adelman, Albert H.
CORPORATE SOURCE: Battelle Mem. Inst., Columbus, OH, USA
SOURCE: Journal of the Chemical Society, Chemical Communications (1974), (16), 674-5
CODEN: JCCCAT; ISSN: 0022-4936
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Singlet O was generated by near **IR** irradiation in the presence of 1,1'-diethyl-2,2'-tricarbocyanine iodide, xenocyanine, and 3,3'-diethyl-9,11,15,17-dineopentylenethiapentacarbocyanine iodide as sensitizers, and trapped by 9,10-dimethylanthracene.

IT **17695-32-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(photosensitizer, in singlet oxygen generation in solution by near **IR** irradiation)

RN 17695-32-8 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

L29 ANSWER 70 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1972:106427 HCAPLUS
DOCUMENT NUMBER: 76:106427
TITLE: Direct-positive photographic silver halide emulsions containing cyanine dye sensitizers
INVENTOR(S): Shiba, Keisuke; Hinata, Masanao; Ohi, Reiichi; Kondo, Tokiharu; Sato, Akira; Yamasue, Koutaro
PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd.
SOURCE: Ger. Offen., 49 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2127346	A	19711209	DE 1971-2127346	19710602
DE 2127346	B2	19731031		
DE 2127346	C3	19740530		
JP 48042494	B4	19731213	JP 1970-47380	19700602
FR 2097822	A5	19720303	FR 1971-19938	19710602

CA 975606	A1	19751007	CA 1971-114642	19710602
US 3887380	A	19750603	US 1973-390264	19730821
PRIORITY APPLN. INFO.:			JP 1970-47380	A 19700602
			BE 1971-104148	A 19710602
			CA 1971-114642	A 19710602
			DE 1971-2127346	A 19710602
			FR 1971-19938	A 19710602
			JP 1971-18670	A 19710602
			US 1971-149272	A2 19710602

GI For diagram(s), see printed CA Issue.

AB The spectral sensitivity of direct-pos. black and white or color photog. emulsions containing cyanine dye sensitizers such as I is increased by the addition of sulfonates containing diazine or triazine rings, such as II. I is used at 1-200 mg and II at 5-200 mg per kg of Ag halide emulsion. The weight ratio of II:I is 1:5 to 1:50. Both I and II are added to the emulsions as solns., e.g. in MeOH, EtOH, or H_2O. Although emulsifying and phys. ripening of the Ag halide emulsion may take place conventionally, the use of an **Ir** or Rh salt is preferred. Thus, a Ag(Cl,Br,I) emulsion containing 19.7 I and 400 mg II/kg was coated on a cellulose acetate support and exposed through a step wedge using a sensitometer, and the yellow relative sensitivity determined as 155, Dmax. 2.0, and Dmin. 0.26 vs. 100, 2.1, and 0.74, resp., for a II-free control.

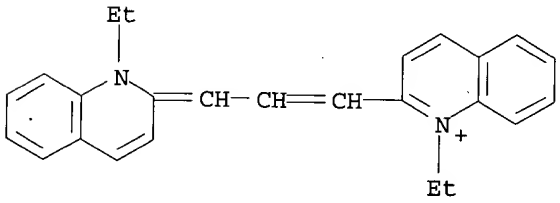
IT **14124-47-1 14806-50-9**
RL: USES (Uses)
(photog. supersensitizers from sulfonates containing triazines and)

RN 14124-47-1 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, salt with 4-methylbenzenesulfonic acid (1:1) (9CI) (CA INDEX NAME)

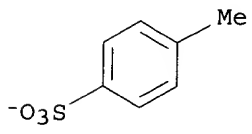
CM 1

CRN 20187-38-6
CMF C25 H25 N2



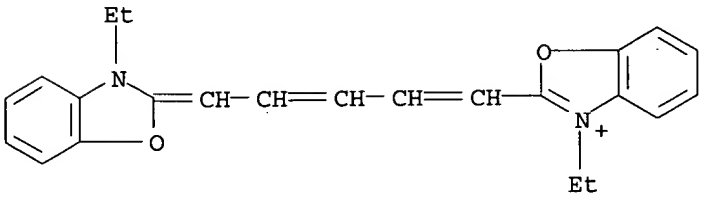
CM 2

CRN 16722-51-3
CMF C7 H7 O3 S



RN 14806-50-9 HCAPLUS

CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)

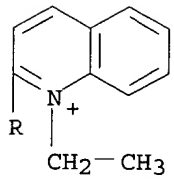


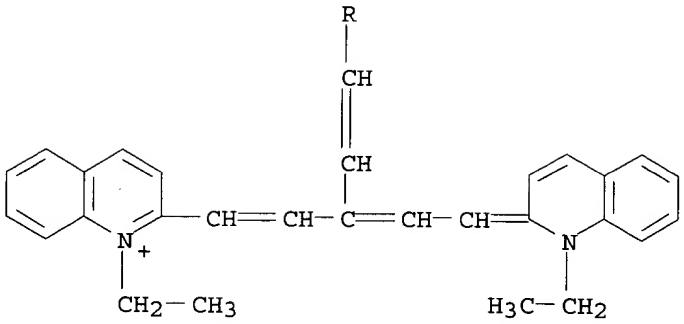
● I^-

L29 ANSWER 71 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1968:3889 HCAPLUS
DOCUMENT NUMBER: 68:3889
TITLE: Synthesis with substituted malonaldehydes. III. Trinuclear pentamethinecyanine dyes
AUTHOR(S): Reichardt, Christian
CORPORATE SOURCE: Univ. Marburg, Marburg, Fed. Rep. Ger.
SOURCE: Tetrahedron Letters (1967), (44), 4327-32
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: German
GI For diagram(s), see printed CA Issue.
AB I (Z = CH:CH, S, CMe2), prepared in 50-75% yield by treating II with HC(CHO)3 in the ratio 3:1 in Ac2O-NaOAc for 2 hrs. at 100°, identified by their **ir**, uv and N.M.R. spectra. Their structure as "vinylogous guanidinium salts" is discussed. 22 references.
IT **16449-73-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 16449-73-3 HCAPLUS
CN Quinolinium, 2,2'-[3-[(1-ethyl-2(1H)-quinolinylidene)ethylidene]-1,4-pentadiene-1,5-diyl]bis[1-ethyl-, bis[tetrafluoroborate(1-)] (9CI) (CA INDEX NAME)

CM 1

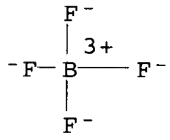
CRN 47845-01-2
CMF C40 H39 N3





CM 2

CRN 14874-70-5
CMF B F4
CCI CCS



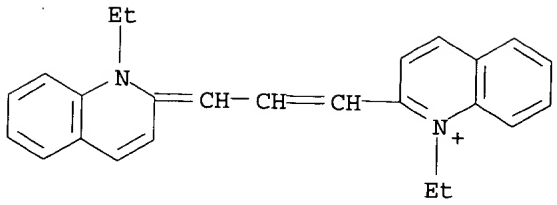
L29 ANSWER 72 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1967:120295 HCAPLUS
DOCUMENT NUMBER: 66:120295
TITLE: Spectral sensitization. V. The visible and **infrared** spectral of some very pure 2-bis-benzoxazolyl, 2-bis-indolinyl, and 2-bis-quinolyl cyanine iodides
AUTHOR(S): Leifer, Asa; Bonis, David; Boedner, Marie; Dougherty, P.; Fusco, A. J.; Koral, Marvin; LuValle, James E.
CORPORATE SOURCE: Space and Defense Systems, Syosset, NY, USA
SOURCE: Applied Spectroscopy (1967), 21(2), 71-80
CODEN: APSPA4; ISSN: 0003-7028
DOCUMENT TYPE: Journal
LANGUAGE: English
AB cf. CA 65, 17907e. A detailed study of the visible spectra in solution and the **ir** spectra in the solid state has been made for the following vinylogous series of cyanine dyes: [2-bis(3-ethylbenzoxazolyl)]cyanine iodides, [2-bis(1-ethyl-3,3-dimethylindolinyl)]cyanine iodides, and [2-bis(1-ethylquinolyl)]cyanine iodides. Each dye, to be acceptable for study, had to be

chromatographically pure, give a correct microchem. elemental analysis, and be free of E.S.R. (free-radical) signals. The characteristic red shift of the principal absorption maximum was observed for these dyes in the visible range as the number of methine linkages increased. A careful comparison of the visible spectral data of the [2-bis(3-ethylbenzoxazolyl)]cyanine iodides with those of the corresponding [2-bis(3-ethylbenzothiazolyl)] and [2-bis(3-ethylbenzoselenazolyl)] cyanine iodides, [Leifer et al., Appl. Spectry. 20, 289(1966)] indicates that the electronegativity of the atom S, Se, or O in the heterocyclic rings probably affects the wavelength of the principal absorption maximum As the electronegativity of the Group VIA atom increases, the principal absorption maximum shifts slightly toward the blue. Assignments of vibrational modes to sep. absorption regions have been made for this vinylogous series of dyes. Each vinylog has a characteristic pattern of resonant-conjugated stretching modes in the region 1600-1400 cm.-1 Some of these modes exhibit a low-frequency shift as the resonant-conjugated chain increases. Comparison of the benzoxazolyl modes with those of the corresponding benzothiazolyl and benzoselenazolyl modes indicates that they are probably a function of the electronegativity of S, Se, or O in the heterocyclic rings. As the electronegativity of the Group VIA atom increases, the resonant-conjugated stretching modes shift to higher frequencies. There are also characteristic bands in the 1600-1400 cm.-1 region which are present in all the vinylogs of each series of these dyes. These bands have been assigned to the stretching modes of the fused phenyl rings present in these dyes. It appears that the fused phenyl stretching modes are a function of the groupings CMe2, O, S, Se present in the indolinyl, benzoxazolyl, benzothiazolyl, and benzoselenazolyl heterocyclic rings, resp. The S and Se atoms affect these modes the least, while the O atom affects these modes the most. Assignments have been made for the aromatic CH out-of-plane bending modes in the region 800-700 cm.-1 for these vinylogous series of cyanine dyes. In the spectra of the 2-bis(indolinyl) and 2-bis(quinolyl)cyanine iodides, there is a band appearing in the region 1000-900 cm.-1 which changes systematically with an increase in the number of hydrogens on the bridge. This band has been assigned to the out-of-plane bending vibrations of the hydrogens in a trans configuration on the bridge. No evidence of a cis isomer was observed in the spectra.

IT **605-91-4**, Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolylidene)propenyl]-, iodide **14187-31-6 14806-50-9 15185-48-5**, Trimethinecyanine iodide, [2-bis(1-ethylquinolyl)]- **15486-07-4 19764-91-1**
RL: PRP (Properties)
(spectrum (**ir** and visible) of)

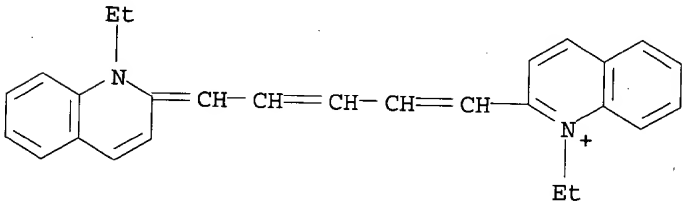
RN 605-91-4 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



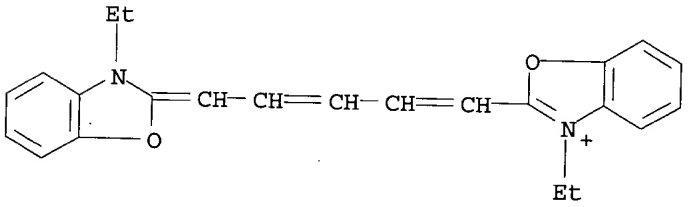
● I^-

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

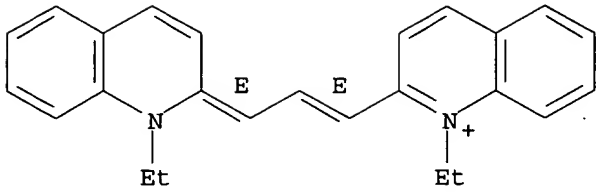
RN 14806-50-9 HCAPLUS
CN Benzoxazolium, 3-ethyl-2-[5-(3-ethyl-2(3H)-benzoxazolylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

RN 15185-48-5 HCAPLUS
CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolylidene)propenyl]-, iodide, (E,E)- (8CI) (CA INDEX NAME)

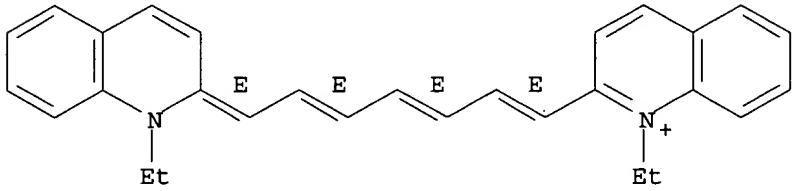
Double bond geometry as shown.



● I^-

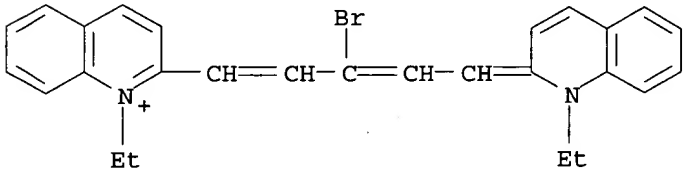
RN 15486-07-4 HCAPLUS
CN Quinolinium, 1-ethyl-2-[7-(1-ethyl-2(1H)-quinolinylidene)-1,3,5-heptatrienyl]-, iodide, (all-E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



● I^-

RN 19764-91-1 HCAPLUS
CN Quinolinium, 2-[3-bromo-5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-1-ethyl-, iodide (9CI) (CA INDEX NAME)



● I^-

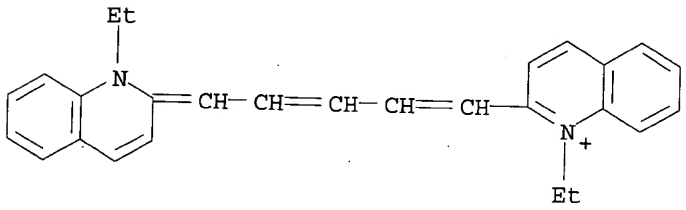
L29 ANSWER 73 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1967:15255 HCAPLUS
DOCUMENT NUMBER: 66:15255
TITLE: Stimulated emission from polymethine dyes
AUTHOR(S): Spaeth, M. L.; Bortfeld, D. P.
CORPORATE SOURCE: Hughes Aircraft Co., Culver City, CA, USA
SOURCE: Applied Physics Letters (1966), 9(5), 179-81
CODEN: APPLAB; ISSN: 0003-6951

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Stimulated emission is reported for 2 polymethine dyes, 1,1'-diethyl-2,2'-dicarbocyanine iodide (DDI) and 1,1'-diethyl-4,4'-carbocyanine iodide (cryptocyanine), dissolved in glycerol when pumped by a Q-switched ruby **laser**. The ratio of fluorescent efficiency ε measured in glycerol to that found in iso-PrOH is 22 ± 3 for DDI and 12 ± 3 for cryptocyanine. The 0-0 vibrational peak is obtained at 750-790 mμ, depending on cell length. The 0-1 vibrational transition is also found. The Frank-Condon shift between the fluorescence and absorption peaks in the polymethine dyes is of the order of 300-400 A. The absorption cross sections at 6943 A. for these dyes in glycerol are 4 + 10-16 cm.2 for DDI and 5 + 10-16 cm.2 for cryptocyanine. The peak of the emission in DDI shifts to shorter wavelengths with decreasing cell length, and this is due to the effects of self-absorption, which becomes less pronounced in the shorter cells. A slight tendency (in both dyes) for the peak to shift to shorter wavelengths with increasing cavity length is observed. A pronounced and repeatable threshold dependence on the ruby input power, the threshold level being between 20 and 40 Mw. for the different configurations studied, and strong dependence of both threshold and output energy on the cavity length are confirmed.

IT **14187-31-6**
RL: PRP (Properties)
(**laser** emission from)

RN 14187-31-6 HCAPLUS
CN Quinolinium, 1-ethyl-2-[5-(1-ethyl-2(1H)-quinolinylidene)-1,3-pentadienyl]-, iodide (9CI) (CA INDEX NAME)



● I⁻

L29 ANSWER 74 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1920:13969 HCAPLUS
DOCUMENT NUMBER: 14:13969
ORIGINAL REFERENCE NO.: 14:2587f-h
TITLE: Studies in photographic sensitizers
AUTHOR(S): Mills, W. H.; Pope, W. J.
SOURCE: Chemical Age (London) (1920), 2, 633
CODEN: CHAGAN; ISSN: 0305-6465
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

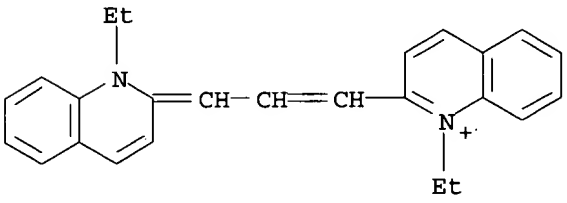
AB These papers deal with the isocyanines, of which the best known representatives are pinaverdol and sensitol green, and with the carbocyanines, best represented by pinacyanol and sensitol red. The isocyanines result from the condensing action of an alkali hydroxide on a mixture of a quinoline alkali iodide. The dyes of the sensitol red class

were produced by the condensation of 2 mols. of a quinaldine alkali iodide with 1 of HCHO under the influence of alkalies. The practicable variations in constitution are fewer than in the case of the isocyanines. Many spectrographs and details of preparation are given, for which the original paper must be consulted. Apparently the type distinction between the isocyanines and the carbocyanines lies in the coupling of the 2 quinoline residues by the link :CH-in the former, and the conjugate chain :CH.CH:CH in the latter. In carbocyanines, the multiplication of the number of units of the constitution :CH was accompanied by an extension of the sensitizing far into the red region of the spectrum. A lengthening of the characteristic :CH.CH:CH chain of the carbocyanines, if possible, may bring still greater increase of **infra**-red sensitiveness.

IT **605-91-4**, Pinacyanol
(as photographic sensitizer)

RN 605-91-4 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-

L29 ANSWER 75 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1920:13968 HCAPLUS

DOCUMENT NUMBER: 14:13968

ORIGINAL REFERENCE NO.: 14:2587f-h

TITLE: Studies in photographic sensitizers

AUTHOR(S): Mills, W. H.; Pope, W. J.

SOURCE: Photographic Journal (1920), 60, 183-201
CODEN: PHOJA7; ISSN: 0031-8736

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

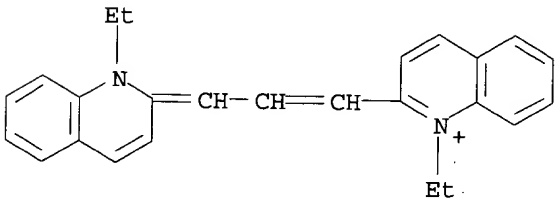
AB These papers deal with the isocyanines, of which the best known representatives are pinaverdol and sensitol green, and with the carbocyanines, best represented by pinacyanol and sensitol red. The isocyanines result from the condensing action of an alkali hydroxide on a mixture of a quinoline alkali iodide. The dyes of the sensitol red class were produced by the condensation of 2 mols. of a quinaldine alkali iodide with 1 of HCHO under the influence of alkalies. The practicable variations in constitution are fewer than in the case of the isocyanines. Many spectrographs and details of preparation are given, for which the original paper must be consulted. Apparently the type distinction between the isocyanines and the carbocyanines lies in the coupling of the 2 quinoline residues by the link :CH-in the former, and the conjugate chain :CH.CH:CH in the latter. In carbocyanines, the multiplication of the number of units of the constitution :CH was accompanied by an extension of the sensitizing far into the red region of the spectrum. A lengthening of the

characteristic :CH.CH:CH chain of the carbocyanines, if possible, may bring still greater increase of **infra**-red sensitiveness.

IT **605-91-4**, Pinacyanol
(as photographic sensitizer)

RN 605-91-4 HCAPLUS

CN Quinolinium, 1-ethyl-2-[3-(1-ethyl-2(1H)-quinolinylidene)-1-propenyl]-, iodide (9CI) (CA INDEX NAME)



● I^-